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Challenges with Teacher Retention and Staffing Shortages in Maine School Districts



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May 2019

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Orono, Maine



Published by the Maine Education Policy Research Institute in the College of Education and Human Development, University of Maine.

MEPRI was established to conduct nonpartisan studies on Maine education policy and the Maine public education system for the Maine Legislature.

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This study was funded by the Maine State Legislature, and the University of Maine System

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Executive Summary

Why was this study conducted?

Challenges with teacher staffing shortages and retention have been a concern in Maine and many other states. At the request of the Joint Standing Committee on Education and Cultural Affairs within the Maine State Legislature, the Maine Education Policy Institute (MEPRI) has conducted various studies recently to investigate questions related to teacher shortages and retention. The purpose of this study is to learn more about the challenges rural school districts in Maine face in hiring and retaining teachers, and the consequences or impacts of staffing shortages or underqualified staff in certain areas.

What do you need to know to put this study into context?

The challenge of staffing schools is a recurring problem across Maine and elsewhere in the U.S., often felt most acutely in smaller rural school districts that cannot compete with larger or more affluent districts that are able to offer higher salaries for teachers and administrators (Cowan, Goldhaber, Hayes, & Theobald, 2016; Sutchter, Darling-Hammond, & Carver-Thomas, 2016). Additional obstacles include inadequate facilities, increased (or severely decreased) class sizes, and lack of quality learning materials (Gallo & Beckman, 2016). Further, the recruitment and retention of qualified teachers remains a challenge for rural schools, due in part to the lack of community amenities, geographic and professional isolation, and higher poverty rates (Miller, 2012). Community closeness, small rural class sizes, and other attributes of rural communities are often noted as advantages for working in a rural school, but the realities of rural life can also serve as barriers for recruiting qualified teachers, especially in difficult to staff positions (Barley & Brigham, 2008; Monk, 2007).

There is consistent evidence of teacher shortages in STEM subjects, special education, and world languages (e.g., Boe & Cook, 2006; Goldhaber, Krieg, Theobald, & Brown, 2015; McLeskey, Tyler & Flippen, 2004; Sutchter, Darling-Hammond & Carver-Thomas, 2016). In fact, a recent longitudinal study of a nationally representative cohort demonstrated that while suburban and some urban schools and districts are hiring teachers in these areas in light of the recent economic recovery, teacher shortages still remain in rural areas and within targeted areas of special education, STEM, and world languages (Aragon, 2016). Further evidence suggests (Moeller, Moeller, & Schmidt, 2015) that rural teacher shortages also exist in secondary career and technical areas, language arts, and social sciences, with additional K-12 shortages reported for English language learning, special education, and world languages (U.S. Department of Education, 2018).

Beyond the teacher shortages, teacher retention is also a major concern. Nationally, the attrition rate for new teachers leaving the profession within the first five years is fairly high for regular education. The Learning Policy Institute reported (2018) attrition rates of 16.7% in the South and 10% in the Northeast. Yet, the attrition rate is even higher for special education

teachers, with two out of five teachers (40%) leaving the field within five years (Kozleski, Mainza & Deshler, 2000).

A recent MEPRI study (Morris & Johnson, 2018) confirmed that these national trends are also present in Maine. Teacher turnover averaged about 12% per year, with about 7% of Maine teachers per year leaving the public teaching workforce altogether (due to retirement or attrition). Another 1 to 2% leave teaching for another type of public school role (such as administration), and about 4% move to another district. Of those who moved to other positions within the state, 80% moved to a position with a higher salary. Smaller and higher poverty schools had higher rates of movers, while larger and lower poverty districts had more turnover due to retirement. There was also a statistically significant pattern of movement from rural locales to more urban districts, and from part-time positions or positions serving multiple schools to full-time positions in a single location.

The consequences for high teacher turnover or difficulty filling positions have negative implications for schools, teachers and other staff, and especially students. Staffing shortages or turnover may result in unfilled positions or hiring educators out of field or who are not highly qualified. These situations negatively impact other staff and students as a result of larger class sizes, fewer support staff and, potentially, less effective instruction. The quality and breadth of the academic program available to students may also be diminished when schools cannot find teachers to offer certain courses or curricula. Larger class sizes or a lack of high-quality teachers may make it more difficult for students to achieve proficiency on state learning standards (Cowan, Goldhaber, Hayes, & Theobald, 2016).

What did we learn from the study?

I. Challenges with Teacher Staffing and Retention

Findings from a statewide survey and analysis of related education data

- **Perceived Recruiting and Retention Challenges Statewide.** Almost four out of five principals (79%) responding to the statewide survey agreed or strongly agreed that it was a significant challenge for their school to recruit teachers in some areas. Fewer, but more than half of principals (60%), agreed or strongly agreed it was a significant challenge for their school to retain teachers in some areas. For all variables examined, recruitment was seen as more of a challenge than retention.
- **Special Education teachers.** The subject area where schools faced the most difficulty retaining and hiring teachers was special education. A majority of principals responding to the statewide survey (70%, n=156) indicated it was a significant challenge to recruit and hire special education teachers. Special education teachers were also viewed as a significant challenge to retain by 41.3% (n=92) of responding principals.

- **STEM fields and World Languages** In keeping with national trends, principals also identified recruitment as a challenge for filling teaching positions in STEM fields and world languages: Mathematics (30% agreed), science (25%) and world languages (27.4%). Some principals also agreed that retaining mathematics (15%) and science (13%) teachers was a challenge.
- **Allied Arts.** Recruitment and hiring of allied arts teachers were viewed as a challenge by higher than expected percentages of principals. Music (20%), art (14%) and physical education (10%) were identified as areas that were a significant challenge to hire and recruit.
- **Geographic locale.** Almost all remote rural school principals felt recruitment of teachers was a significant challenge, while half of city and suburban schools agreed with the same statement. To a lesser degree, the same pattern of rural remote areas having greater challenges than city suburban areas was seen in perceptions about retaining teachers.
- **Economic conditions.** The percentage of students in each school receiving free or reduced price lunch was used as a measure of family economic hardship. In the statewide survey, schools with fewer students qualifying for free or reduced price lunches were less likely to report challenges in recruiting and retaining qualified teachers.
- **Salary Scale Effect.** By using negotiated school administrative unit (SAU) salary scale data obtained from the Maine Education Association, the mean entry level salary for teachers with a bachelor degree was found to be \$5,000 less in schools where principals strongly agreed on the statewide survey that it was a challenge to recruit than in schools where principals strongly disagreed that it was a challenge to recruit and hire teachers. A \$5,000 difference was also seen in the mean salary for mid-career master's degree teachers when the principals strongly agreed it was a challenge to retain teachers compared with principals who disagreed it was a challenge to retain teachers.
- **Student teacher ratio.** Large class size has been mentioned as a consequence of staffing shortages. Rural schools may also have small class sizes. To determine if class size was a factor in staffing perceptions, we obtained school level data from the National Center for Education Statistics (NCES). The student teacher ratio data, based on the number of reported students and Full-Time Equivalent (FTE) classroom teachers, was compared to principal survey responses on the challenges their schools faced in recruiting and retaining teachers. There was no difference in the student teacher ratio in schools facing recruiting or retaining challenges and those schools not facing the challenge.

Findings from three rural districts

Related to the broad research questions framing this study, we describe below: 1) the perceived factors contributing to staffing and retention challenges in three rural districts, 2) the perceived impacts of staffing and retention challenges, and 3) the strategies these districts used to improve recruitment and retention.

II. Factors Contributing to Staffing and Retention Challenges

The three rural districts we studied consistently cited similar factors that they feel contribute to their recruitment and retention challenges. Chief among those were: 1) the short supply of candidates in some areas of education, 2) the districts' inability to match more competitive salaries, and 3) the characteristics of rural communities. These and additional contributing factors are described here:

- **Decline in supply of qualified candidates.** In the interviews we conducted, the three rural districts described sharply declining numbers of applicants for advertised positions. They see fewer people going into education and graduating with degrees, particularly for special education teachers, educational technicians, and specialists in behavior, speech and other areas.
- **Salary competition from neighboring districts.** Higher salaries, sometimes significantly higher in neighboring districts, drew teachers and administrators to other districts, some only a few minutes away.
- **Characteristics of rural districts.** Lack of housing, job opportunities for spouses and partners, and the long driving distance to find shopping and other amenities are elements of rural communities that reduce appeal to new hires, particularly young people and families.
- **Qualifications of new teachers.** Most applicants are new to the field and therefore lack experience and skills in classroom management. Many educators entering the workforce don't have enough course credits to qualify for full certification and are conditionally certified until they complete the requirements.
- **Decreased availability of educational technicians and specialists.** Given the difficulty of finding qualified special education staff and retaining them, the three rural districts had fewer special education staff than needed, reducing the support to regular education teachers and to students. They also cited a high need for behavior specialists and other specialists, who are also hard to find and retain.
- **Increased caseloads and paperwork in special education.** Participants observed that special education teachers are coping with an increased amount of paperwork required and reduced time available to work directly with students. Given the difficulty of filling special education positions and high attrition rates, these three rural districts struggled with high caseloads for special education teachers and staff.
- **High turnover in district and school administrative leadership.** The three rural districts had a recent history of high turnover in district and school administrative

positions. Most administrators had been in their positions less than five years. Participants felt the constant turnover in administration created a lack of stability and continuity in leadership and in direction of the schools, reduced morale of teachers, and contributed to teacher turnover.

- **Dissatisfaction with career choice.** Some new teachers left when the work of classroom teaching did not meet their expectations. Administrators felt many new teachers were unprepared for the realities of managing challenging student behaviors and low academic aspirations.
- **Career expectations of new teachers.** In one district, an administrator described the current generation of young teachers as having markedly different career expectations and pathways than teachers in the past. In the past, it was common for people to seek teaching positions in their hometown in the schools they had attended as students and/ or remaining in the same district for their entire career. Young teachers today move from district to district more frequently, seeking the optimal position.
- **Lack of clarity around credentialing.** Our interviews uncovered a lack of clear understanding about the current state rules around certification of teachers, particularly special education teachers, and credentialing for educational technicians. Although state policymakers have discussed making changes to the rules, there has actually been very little change to date. The real challenge then for these districts is not so much keeping up with changing rules regarding credentialing, but rather finding enough potential candidates in the state who have completed the required training. A further challenge is accessing needed courses from remote, rural areas, although many of the special education degree programs in Maine are offered as online courses and programs.
- **Part-time positions less attractive than full-time positions.** Some positions in special education and other content areas, such as allied arts, are often part-time, either because the enrollment of the school or district is small and/ or because of budget constraints in a district. These positions are often shared across districts and may require more travel time for the employee. Part-time positions have lower salaries, benefits and job security compared with full-time positions and are less attractive.
- **Public perceptions about education.** Administrators noted the impact of negative messaging about education on public perceptions of teachers and schools and feel this discourages people from considering the profession.
- **Low parent or community interest and investment in education.** Administrators and teachers described the challenge of bringing parents into the school, and their constrained budget which translates into lower salaries for administrators and teachers.
- **Low mentoring support for new teachers.** Given larger numbers of new teachers and fewer veteran teachers, these districts struggled to shoulder the work of mentoring.

III. Impacts of Teacher Staffing and Retention Challenges

High teacher turnover and employment of less experienced and qualified staff in the rural districts had negative impacts for the schools and their communities. Administrators and teachers faced higher workloads when positions were unfilled or new teachers were not ready to assume duties. Teachers and students had less support for special education and behavior management when there were fewer special education staff members available and they had less expertise. Community support and confidence was diminished. The negative impacts of staffing challenges included the following:

- **Reduced teacher effectiveness and support to students.** Interview participants in the three rural districts observed that when newly hired teachers are also new to the field, they lack experience and expertise in both their content area and in classroom management. When teachers and specialists have lower qualifications and are not yet fully certified, they also lack experience and expertise needed to assist students special needs and to effectively implement appropriate interventions and supports.
- **Reduced staff morale.** Teachers working in these high turnover districts felt demoralized by the experience of repeatedly losing their colleagues and team members, interrupted professional relationships, the lack of mentoring, and higher workloads for the few veteran teachers. Staff also felt demoralized by the high administrative turnover in recent years.
- **Reduced capacity to support teachers.** The three rural districts were less able to attract fully certified special education teachers and educational technicians, and were also challenged by constrained budgets to afford sufficient numbers of staff and specialists to support regular education teachers and special education students. New teachers in particular struggled to cope with challenging behaviors in the classroom and to support students' special needs without these support staff.
- **Reduced community confidence in the school system.** Administrators noted the challenge of maintaining the confidence of parents and the community in the school system in the face of continuing high turnover of administrators and teachers, and lagging student academic performance. Low confidence also translated into a reluctance to increase school budgets.
- **Increased costs for teacher training.** All school districts face some staff turnover and the need to train newly hired staff. When turnover rates are high, districts face higher, on-going training costs. In the three rural districts, these costs included: subsidized course credits for new staff to work toward professional certification, induction programs for larger groups of new teachers, stipends for teachers who mentor new teachers, and other professional development to bring new staff up to speed on curricular or instructional practices.
- **Stalled curriculum and school improvement efforts.** Schools and districts often adopt new curricula, instructional practices, behavior interventions, and other school

improvement initiatives to support improved teaching and learning. These efforts require time for staff buy-in, professional learning, collaborative work to develop new content or practices, implementation, reflection and adjustment of practice. With high administrative and staff turnover, schools lose their institutional memory and the foundational knowledge to support and sustain these improvement efforts.

IV. District Strategies to Improve Recruitment and Retention

The three rural districts shared some common strategies to try to improve their teacher applicant pool and to retain teachers and specialists. There were also some strategies that were unique to one or two of the districts. The strategies included these:

- **Beating the bushes.** Administrators worked hard to find potential applicants through regular advertisement and reaching out to other districts and higher education. There is a strong need to increase the applicant pool to allow districts more opportunity to select better qualified candidates.
- **Paying for teachers' coursework for certification.** More teachers and educational technicians are coming into the workforce without full professional credentials. When the districts have no other applicants, they may agree to subsidize the additional coursework needed to help these new hires become professionally certified or credentialed to meet the requirements of their positions.
- **Customizing teacher professional development.** One district described making more effort to customize teachers' professional development to better support the unique professional growth needs of their teachers. This is an approach that many districts in Maine already use as part of their Performance Evaluation and Professional Growth (PE/PG) systems required by state education law.
- **Strengthening new teacher induction.** One district described redesigning and strengthening their new teacher induction program and selecting professional development topics in collaboration with teachers. Teachers had positive praise for this program and returned in their second year to participate in high numbers. Classroom management and behavior management were topics of high interest.
- **Providing training on classroom management and student behavior.** All three districts were attempting to provide staff training on classroom management and behavior management, and one district mentioned training on trauma-informed practice for their staff. They noted the need for improved knowledge and skills in these areas, and the negative impact of rural poverty and trauma on students' social-emotional well-being and school success.
- **Increasing administrative and teacher salaries.** One district's superintendent had made a concerted effort to obtain approval for administrative and teacher salary increases to help the district become more competitive in the job market, though he acknowledged they would most likely never catch up to higher paying neighboring districts.

- **Converting part-time positions to full-time positions.** One district described their effort to convert a part-time literacy specialist position to a full-time position to attract more applicants, but ultimately hired someone who did not meet the qualifications of the full-time position and had to revise the job description.
- **Reducing teachers' workload.** One district reduced the non-teaching duties of teachers to increase job satisfaction and retention. Administrators and educational technicians took on more of these non-teaching during lunch, recess and busing times during the school day.
- **Creating leadership opportunities for teachers.** Teachers in these rural districts noted the lack of leadership opportunities and stipends in their districts. One district was making more effort to create new opportunities for teachers and teachers were hopeful about that change.
- **Re-culturing schools.** Two districts described their efforts to improve morale and the culture of the schools. Some efforts were made through superintendents' and principals' communications and a shift to a more collaborative relationship with teachers, while other efforts were initiated by individual or small groups of teachers seeking to improve the school climate and strengthen professional relationships.

What did we conclude overall from the study?

Based on our examination of the findings from this study, other recent MEPRI studies, and the research literature on teacher staffing and retention trends, we can offer some broad conclusions here, followed by some ideas for consideration by local and state policymakers.

Most principals responding to our statewide survey indicated that teacher recruitment is a significant challenge for special education teachers and some content areas, and a majority of principals indicated that teacher retention is also a significant challenge. The areas of greatest challenge include: special education, mathematics, science, world languages and music. These findings are consistent with national trends. Teacher turnover or attrition for regular education is high: about 7% of teachers leave the field each year in Maine, and about 10% do so across the Northeastern states. Yet, the attrition rate is even higher for special education teachers at 40% according to one study.

Maine schools experiencing the greatest challenge in teacher recruitment and retention have certain characteristics: they are more rural, their students have higher levels of poverty, their teachers tend to be less experienced and credentialed, teacher salaries are statistically significantly lower than in other districts, and their teachers and staff tend to be more mobile—typically leaving to take jobs in higher paying districts in more urban or suburban areas.

Many of the same factors that contribute to the teacher recruitment and retention challenges in Maine have been identified more broadly in the literature and pose a challenge for policymakers nationally. Chief among these are: 1) the low number of teachers seeking a career in certain areas (e.g., special education math, science, world language, and music); 2) the significant differences in teacher salaries across districts and bargaining units, often just a few

miles apart; and 3) the characteristics of rural communities that often make them less attractive to new hires and their families.

The recruitment and retention problems have wide-ranging impacts for schools, teachers, and especially students, as described in the interviews and in the research literature. Less experienced or qualified teachers and special education staff (e.g., educational technicians) are less effective in helping to support students' academic achievement and managing and improving challenging student behaviors. Unfilled teaching or staff positions mean educators are spread more thinly and teacher student ratios are higher than average, as may be class sizes as well. High teacher turnover reduces the morale of teachers, over-burdens the veteran teachers trying to mentor young teachers, and disrupts the implementation of needed school improvement efforts. Schools face higher costs to help less qualified educators finish their required coursework, and repeated costs for training and induction of new teachers, all at the same time that their school budgets may be more constrained and the local public confidence is diminished. In fact, this appears to be a major inequity among Maine school districts: smaller districts with fewer resources are assuming a larger burden for training new teachers who do not stay but leave within five years for higher paying districts with more resources.

While the three rural districts we studied are making efforts to improve their salary competitiveness, supports for new teachers, and school climate, they are skeptical about their ability to ever catch up with neighboring districts' salaries and to offer the attractions and amenities of more urban or suburban districts. They seek larger solutions to this complex problem, and assistance through state and local policy.

What are some potential implications for education policy and/ or practice?

While many of the challenges that rural districts face may be particularly difficult to tackle, as they include geographic isolation, smaller populations and reduced housing and other economic opportunities, there are some strategies that local and state policymakers may consider. We offer some ideas that emerged through our review of the literature, strategies used by other states, and suggestions from the educators and administrators whom we interviewed.

- **Improve communication about PK-12 education careers.**
 - ***Improve statewide communication about career opportunities in education.***
Currently Maine school districts must pay a fee to post job advertisements through a private website, servingschools.com. New Hampshire's state educational agency provides a free online platform for educational job listings and job seekers to use. Providing this information for free statewide would help both school districts and educators find each other. In addition, high need areas of teaching should be emphasized in career information, supported by statewide data and projections of areas where educators will be needed in the next five to ten years.

- ***Improve clarity of information about state requirements regarding educational preparation and credentialing.*** District administrators and educators find it confusing to decipher what the current rules are and what educators need for full certification or credentialing, despite the fact that this information is readily accessible on the MDOE website. Feedback from users could help to identify areas where additional clarity is needed.
- ***Improve information and support for career preparation.*** As people begin to consider a career in education, or changing careers, they need clear guidance through information at the state level and from educator preparation programs in the state to understand what pathways, degree and dual-degree programs, and learning modalities (online, on campus, etc.) are available. Current personnel resources may need to be strengthened and information websites improved for clarity.
- ***Increase statewide and local efforts to communicate about education careers in a positive way.*** Negative messaging about education and educators both nationally and more locally have negative impacts on teacher recruitment and reduces the pool of people seeking a career in education. The state and local school districts, along with professional organizations in education, could use more targeted media communications to improve public perception of PK-12 education and career opportunities.
- **Use inducements to meet high needs areas in education.** While the state and the federal government offer some inducements already, these should be examined to see what additional incentives may be needed to attract and retain educators to high needs content areas and special education, as well as to work in rural schools. Some options may be to offer loan forgiveness, signing bonuses, or higher starting salaries, and to tie those to an agreement to stay in the school or district for a minimum of five years. Maine offers teachers loan forgiveness to encourage teachers to work in low income schools and in certain subject areas, but not specifically to work in remote rural areas. Some districts, as highlighted in our case studies, are already moving in the direction of these types of inducements. As reported in the case studies and a prior MEPRI report (Fallona & Johnson, 2019), Maine districts and districts in other states such as California, Colorado, and Minnesota are also using a “grow your own” approach to identify residents of their communities who have potential for education careers.
- **Strengthen educator induction and mentoring.** Induction and mentoring for new educators have not been universally provided statewide or may lack effectiveness. These supports are critical for developing effective teachers and retaining teachers in both regular and special education. State requirements have been strengthened in this area, but additional supports and resources are needed to ensure that new educators have the support they need in any Maine school district.

- **Support development of regional collaboratives.** Regional collaboratives or partnerships could be developed to share resources for induction, mentoring, and on-going professional development for new administrators and new teachers at the PK-12 level. Regional programs might also be an effective way to provide coursework for educational technicians and specialists in behavior, speech, and other critical need areas in special education. Collaboratives could include partnerships among SAUs, between SAUs and higher education institutions, and/ or between SAUs and statewide professional organizations in education.
- **Explore longer preservice teaching experience.** New teachers generally spend 8-15 weeks as student teachers and engage in classroom experiences of varying durations and quality prior to employment (Zeichner, 2010). Administrators we interviewed noted that new teachers often lack realistic expectations about the work and conditions of teaching, and also lack strong knowledge and skills in classroom management and behavior management. They suggested more preservice experience in classrooms would better prepare new teachers to work effectively with students. The increased practice should be accompanied by the necessary frameworks and tools to make sense of their placements beyond their experiences as a student. This recommendation aligns with a prior MEPRI recommendation to expand the “residency” model of grow-your-own (GYO) teacher preparation in rural areas (Fallona and Johnson, 2019). Further, giving preservice teachers opportunities to spend time in classrooms earlier on in their programs may help them to determine if education is a good career fit.

What methods were used to conduct this study?

The broad research questions framing this study included:

- In what areas do rural schools face the most challenge in hiring and retaining teachers?
- What factors do principals and teachers perceive as contributing to these staffing challenges?
- What are the consequences of these staff shortages for the school, for the other teachers, and for students?

To explore these issues, this study used a qualitative research design consisting of in-depth interviews (see Appendices A and B) in three rural Maine school districts that are experiencing higher than average teacher turnover and staffing shortages. Districts were purposefully selected based on having one or more schools within the top 20th percentile for school-level teacher turnover rates over the past decade or longer. Rural districts were selected from northern, central, and western Maine to represent different geographic regions of Maine. In order to maintain confidentiality, we refer to these districts using pseudonyms rather than real district names. A total of 22 interviews were conducted with administrators and teachers.

In addition to the qualitative data, this study also collected quantitative data through other sources. First, a set of four forced-choice survey items were included on a statewide survey of principals and teachers conducted by MEPRI in fall 2018 that focused primarily on

implementation of Performance Evaluation and Professional Growth (PE/PG) systems. This method provided a way to get a broader picture of current staffing shortages and retention challenges across all districts in the state. The additional questions asked participants whether recruiting and hiring teachers was a significant challenge in their schools, and if so, in which content areas. This survey was sent to all principals and assistant principals that are part of Maine's PE/PG initiative using an email list from the Maine Department of Education (MDOE). The response rate for completed surveys for principals was 39%. Principals from 135 of the 199 SAUs surveyed responded (68% of the SAUs surveyed). Just under 2,000 surveys were sent to teachers as a representative sample of Maine's 14,034 PK-12 teachers. The teacher response rate was 29% with teachers representing 314 of the 579 schools in Maine, and 135 of the 199 SAUs. Special education teachers and technical education teachers were also represented in the survey sample.

Second, we collected additional data on salary scales by SAU from the Maine Education Association (MEA), as well information from the National Center for Education Statistics (NCES) on geographic location designations, data on student teacher ratios, and school Title I status, to use in our analysis of the survey data. The MEA and NCES data were linked to principals by SAU and schools. Chi-squares and ANOVA analyses were used to test for significance. Demographic information about the survey sample is presented in Appendix C.

How robust are the findings?

This study combines both statewide survey data from principals and teachers in Maine as well as in-depth interviews with administrators and teachers in three Maine school districts. This mixed-methods research design provides robust empirical data to explore the complex factors that contribute to staffing shortages and high teacher turnover rates. The statewide survey data reflect a large and representative sample of school districts and educators across the state, which provides increased confidence in conclusions drawn from those findings. The survey data also allowed the research team to explore how staffing shortages may differ across districts with different demographic or geographic characteristics, drawing on additional education data obtained for that analysis. By contrast, the qualitative case studies provided interview data from a small number of districts and were focused specifically on rural districts. Efforts were made to interview a broad range of administrators and educators from various grade levels and content areas and special education. While qualitative studies lack the larger sample size of surveys, they provide the opportunity to collect very rich, descriptive data and the flexibility for the research team to probe and follow up on comments with additional questions as needed to increase understanding.

Introduction

Challenges with teacher staffing shortages and retention have been a concern in Maine and many other states. At the request of the Joint Standing Committee on Education and Cultural Affairs within the Maine State Legislature, the Maine Education Policy Institute (MEPRI) has conducted various studies recently to investigate questions related to teacher shortages and retention. A quantitative study conducted by MEPRI (Morris & Johnson, 2018) examined teacher turnover in Maine historically to better understand patterns in teacher staffing and mobility across districts and the factors related to teacher mobility. The analysis from that study informed the selection of districts for the case studies described in this report. Another quantitative study in progress through MEPRI this year is looking at teacher shortages in Maine by geographic region to better understand the supply patterns of teachers and specialists in Maine. A study delivered earlier this year (Fallona & Johnson, 2019) examined national and state models for increasing the supply of teachers, particularly teachers who work with students with special education needs, through dual-certification and “grow your own” teacher preparation pathways.

The purpose of this study is to learn more about the challenges rural school districts in Maine face in hiring and retaining teachers, and the consequences or impacts of staffing shortages or underqualified staff in certain areas. In contrast to the other MEPRI studies, which took a statewide look at the supply and shortages of teachers across all Maine districts, this study focused specifically on a few rural school districts to understand what factors create unique challenges in teacher staffing and retention in rural areas. Previous MEPRI studies have used quantitative (administrative) data to examine the factors influencing teacher turnover, while the study presented in this report used in-depth qualitative interviews with administrators and teachers to probe into the challenges and factors related to teacher turnover. Given the lack of empirical research that specifically focuses on the consequences of staffing shortages for Maine and elsewhere, there is a need for more research to inform state policymakers and researchers.

Background

The challenge of staffing schools is a recurring problem across Maine and elsewhere in the U.S., often felt most acutely in smaller rural school districts that cannot compete with larger or more affluent districts that are able to offer higher salaries for teachers and administrators (Cowan, Goldhaber, Hayes, & Theobald, 2016; Sutchter, Darling-Hammond, & Carver-Thomas,

2016). Additional obstacles include inadequate facilities, increased (or severely decreased) class sizes, and lack of quality learning materials (Gallo & Beckman, 2016). Further, the recruitment and retention of qualified teachers remains a challenge for rural schools, due in part to the lack of community amenities, geographic and professional isolation, and higher poverty rates (Miller, 2012). Community closeness, small rural class sizes, and other attributes of rural communities are often noted as advantages for working in a rural school, but the realities of rural life can also serve as barriers for recruiting qualified teachers, especially in difficult to staff positions (Barley & Brigham, 2008; Monk, 2007).

A recent MEPRI study (Morris & Johnson, 2018) confirmed that these national trends are also present in Maine. That study found that teacher turnover averaged about 12% per year, with about 7% of Maine teachers per year leaving the public teaching workforce altogether (due to retirement or attrition). Another 1 to 2% leave teaching for another type of public school role (such as administration), and about 4% move to another district. Of those who moved to other positions within the state, 80% moved to a position with a higher salary. Smaller and higher poverty schools had higher rates of movers, while larger and lower poverty districts had more turnover due to retirement. There was also a statistically significant pattern of movement from rural locales to more urban districts, and from part-time positions or positions serving multiple schools to full-time positions in a single location.

The vast majority of the 619 schools in Maine are located in rural regions. Fourteen percent are in town areas and 67% are in rural areas. In addition to having a high percentage of rural schools, Maine schools have a large percentage of low-income students. The average schoolwide percentage of students in Maine who qualify for free or reduced price lunch is 49%. Another factor that may be affecting Maine school staffing is district size. Maine's 206 public school administrative units (SAUs) tend to be small. Just for context, fifty seven percent of Maine districts (n= 117) have 500 or fewer students, but only 12% of Maine students are educated in these districts. Thirty percent of Maine districts (n=61) have 1,000 or more students, educating 77% of Maine students. Only fifteen percent of Maine districts (n=30) enroll over 2,000 students, but these districts educate almost half of Maine students (49%) and employ almost half of Maine teachers (47%). Due to the above mentioned factors that contribute to teacher staffing and retention challenges, higher poverty schools in Maine tend to have teachers

with lower average educational attainment and fewer years of teaching experience than other schools (Morris & Johnson, 2018).

Following the economic downturn of 2008, schools were forced to cut positions, veteran teachers took advantage of retirement options, and students sought careers with more advantageous salary and benefits options than PK-12 teaching (Aragon, 2016), creating an overall shrinking supply of teachers. More recent economic upturns have left schools with the funds and the need to hire qualified teachers to fill positions, but many rural schools in particular (Ingersoll, 2003) still face significant challenges in filling specific teaching positions.

There is consistent evidence of national teacher shortages in STEM subjects, special education, and world languages (Boe & Cook, 2006; Goldhaber, Krieg, Theobald, & Brown, 2015; McLeskey, Tyler & Flippen, 2004; Sutchter, Darling-Hammond & Carver-Thomas, 2016). In fact, a recent longitudinal study of a nationally representative cohort demonstrated that while suburban and some urban schools and districts are hiring teachers in these areas in light of the recent economic recovery, teacher shortages still remain in rural areas and within targeted areas of special education, STEM, and world languages (Aragon, 2016). Further evidence suggests that rural teacher shortages also exist in secondary career and technical areas, language arts, and social sciences, with additional K-12 shortages reported in teaching English language learning, special education, and world languages (Moeller, Moeller, & Schmidt, 2015; U.S. Department of Education, 2018). Nationally, the attrition rate for new teachers leaving the profession within the first five years is fairly high for regular education. The Learning Policy Institute reported (2018) attrition rates of 16.7% in the South and 10% in the Northeast. Yet, the attrition rate is even higher for special education teachers, with two out of five teachers (40%) leaving the field within five years (Kozleski, Mainza & Deshler, 2000).

The consequences for high teacher turnover or difficulty filling positions have negative implications for schools, teachers and other staff, and especially students. Staffing shortages or turnover may result in unfilled positions or hiring educators out of field or who are not highly qualified. These situations negatively impact other staff and students as a result of larger class sizes, fewer support staff and, potentially, less effective instruction. The quality and breadth of the academic program available to students may also be diminished when schools cannot find teachers to offer certain courses or curricula. Larger class sizes or a lack of high-quality teachers

may make it more difficult for students to achieve proficiency on state learning standards (Cowan, Goldhaber, Hayes, & Theobald, 2016).

Methodology

The broad research questions framing this study included:

- In what areas do rural schools face the most challenge in hiring and retaining teachers?
- What factors do principals and teachers perceive as contributing to these staffing challenges?
- What are the consequences of these staff shortages for the school, for the other teachers, and for students?

To explore these issues, this study used a qualitative research design consisting of in-depth interviews (see Appendices A and B) in three rural Maine school districts that are experiencing higher than average teacher turnover and staffing shortages. Districts were purposefully selected based on having one or more schools within the top 20th percentile for school-level teacher turnover rates over the past decade or longer. Turnover rates are publicly available from archived data in the Maine Department of Education. Rural districts were selected from northern, central, and western Maine to represent different geographic regions of Maine. In order to maintain confidentiality, we refer to these districts using pseudonyms rather than real district names.

Interviews included district administrators (superintendents, assistant superintendents, and district directors of special services), principals, and teachers. A total of 22 individuals were interviewed in-person in Fall 2018. This included: five district administrators, three principals, and 14 teachers. Teachers were invited by their principals from PK-12 grades in each district to participate in the interviews. In two districts, teachers were interviewed within a focus group that consisted of four or five people. In the third district, teachers were interviewed individually within their respective schools. Interviews were audio-taped and transcribed and lasted from 30-60 minutes. Qualitative data from the interviews were analyzed through the development of case summaries for each district using the research questions as a framework, and through cross-case analysis to compare the emerging themes across each rural district.

In addition to the qualitative data, this study also collected quantitative data through other sources. First, a set of four forced-choice survey items were included on a statewide survey of

principals and teachers conducted by MEPRI in fall 2018 that focused primarily on implementation of Performance Evaluation and Professional Growth (PE/PG) systems. This method provided a way to get a broader picture of current staffing shortages and retention challenges across all districts in the state. The additional questions asked participants whether recruiting and hiring teachers was a significant challenge in their schools, and if so, in which content areas. Respondents were asked to identify the areas that presented the greatest challenge to their school to recruit from a list of content areas. There was an option to write-in additional content areas. Other questions asked if retaining qualified teachers is a significant challenge and, if so, in what content areas.

The survey data provides a statewide perspective rather than a focus on the experience of rural districts specifically. This survey was sent to all principals and assistant principals that are part of Maine's PE/PG initiative using an email list from the Maine Department of Education (MDOE). In thirteen schools, no principal was listed so the individual listed by MDOE as the Dean or Head of School was surveyed. These were primarily technical schools. Private schools, public-private schools, charter schools, state-operated or special purpose schools were excluded as they do not participate in the state's PE/PG initiative. There were 579 schools in 199 SAUs included in this survey study. A total of 769 surveys were sent to principals in all 199 School Administrative Units (SAUs). The web survey showed 724 were sent to valid email addresses. A total of 315 principals opened the survey (44%) and 282 (39%) answered questions on the survey. Thus, the response rate for completed surveys for principals was 39%. Principals from 135 of the 199 SAUs surveyed responded (68% of the SAUs surveyed). A total of 1,928 surveys were sent to PK-12 teachers as a representative sample of Maine's 14,034 teachers. The teacher response rate was 29%, with 556 teachers responding from 314 of the 579 schools in Maine, and 135 of the 199 SAUs. Special education teachers and technical education teachers were also represented in the survey sample. Participants received emailed reminders to encourage a stronger response rate. Based on the response rates, we are fairly confident that the study samples and the views expressed in the surveys are representative of schools and educators across the state.

In the interviews, salary, location, and regional economic hardship were mentioned as potential reasons for difficulty recruiting and retaining teachers. Therefore, we collected additional data on salary scales by SAU from the Maine Education Association (MEA), as well

information from the NCES on geographic location designations, data on student teacher ratios, and school Title 1 status, to use in our analysis of the survey data. The MEA and NCES data were linked to principles by SAU and schools. Chi-squares and ANOVA analyses were used to test for significance. Demographic information about the survey sample is presented in Appendix C.

Description of the Case Study Sample

All schools in the three rural districts were designated as “Title I school wide” indicating that at least 40% of students qualified for free or reduced price lunches. The average school size across the three districts was 280 students. Based on the National Center for Education Statistics (NCES) location classifications, the western Maine district had school locations classified at Distant Town or Distant Rural areas. The central Maine district had schools in the Rural Fringe to Rural Remote areas. The northern Maine district had all schools located in Remote Rural areas. Based on enrollment and staffing data from the NCES, the majority of schools in these three districts had a student teacher ratio above the state average (11.9 students to teacher). Many were in the top quartile for student teacher ratio (greater than 13.2 students per teacher). For the schools in the upper quartile of the student teacher ratio, the number of additional teachers needed per school to lower the student teacher ratio to the state average was approximately three. The student teacher ratio data provide further evidence beyond the interviews that teaching staff were spread more thinly in these districts impacting ratios and most likely class sizes.

Findings

In this section, we describe findings from both the statewide survey data and the three qualitative district cases related to the broad research questions for this study.

I. Challenges with Teacher Staffing and Retention

Findings from a statewide survey and analysis of related education data.

The difficulties in recruiting, hiring and retaining qualified teachers are not confined to only a few districts or areas of the state. Of the 252 principals who responded to the survey question on recruiting and hiring teachers, a large majority of principals (79%, n=199) agreed or strongly agreed that it was a significant challenge for their school to recruit and hire qualified teachers in some content areas. Of the 225 principals responding to the next question about

retention of teachers, a majority of the principals (60%, n=134) agreed or strongly agreed that their school faced a significant challenge retaining qualified teachers in some areas.

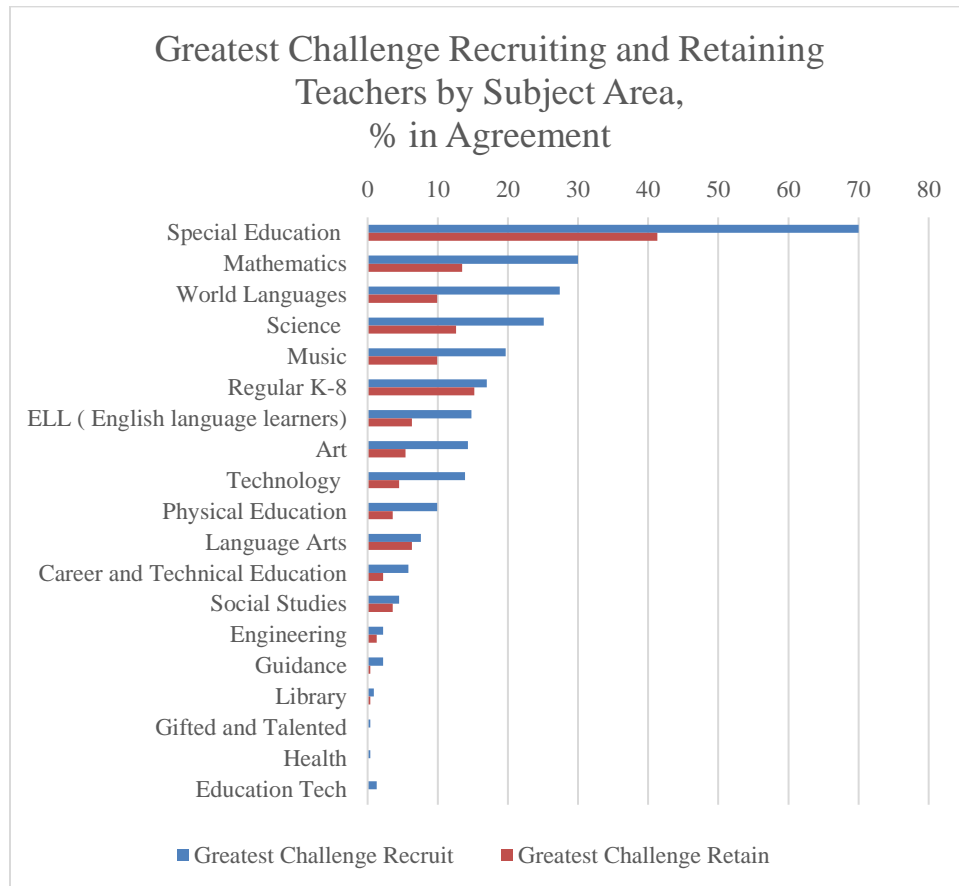
Shortages by Subject Area. When principals were asked which content areas presented a recruiting and hiring challenge to their schools, the area of special education stood out with 70% (n=156) of the responding principals identifying that area as a challenge. Further, 41.3% of the principals (n=92) indicated it is a challenge to retain teachers in the position of special education teacher.

Maine principals also indicated other areas as a challenge for teacher recruitment: mathematics (30.0%, n= 67), science (25.1%, n=56) and world languages (27.4%, 61). English as an additional language was chosen by 14.8% (n=33). In addition to science and math, the other STEM areas are technology and engineering. Far fewer principals indicated it was a challenge to recruit teachers in the areas of technology (13.9%, n=31) and engineering (2.2%, n=5), which may be due to the fact that far fewer teaching positions exist in these areas, particularly in engineering.

The allied arts music, art and physical education content areas may be filled by part-time positions in some districts. Principals indicated music and art were somewhat challenging areas for recruitment, and physical education was less so. Principals agreeing there were challenges in these areas were as follows: music (19.7%, n=44), art (14.3%, n=32) and physical education (9.9%, n=22).

In contrast to the strong concerns about recruitment for the content areas, far fewer principals indicated retention of these teachers was a concern. The exception was special education, where a larger percentage of principals (41.3%) indicated retention is a challenge. With respect to staffing challenges across grade levels, 15.2% (n=34) of principals felt teacher retention was a challenge at the kindergarten to eighth-grade level. For the content areas, fewer principals indicated retention was a challenge: mathematics (13.5%, n=30), science (12.6%, n=28), world languages (9.9%, n=22) and music (9.9%, n=22).

Figure 1. Principals' Perceptions of Recruitment and Retention Challenges by Area.



Geographic Location. Principals from city and suburban schools who responded to the survey indicated teacher recruitment and hiring was less of a challenge than did principals from rural remote areas. While almost half of city and suburban principals (49%, n=25) agreed that it is a challenge for their school to recruit and hire qualified teachers in some areas, 95% (n=56) of principals from rural remote areas agreed with the same statement. Principals located in towns (82%), rural fringe areas (84%) and rural distant (83%) areas agreed with the statement that recruiting and hiring teachers was a challenge. The difference in perceptions of challenge based on NCES locales was significant $p < 0.0001$ ($\chi^2 = 38.0$).

Table 1. Principals' Perception of Significant Challenge to Recruit Qualified Teachers by NCES Locale Classification.

Challenge to Recruit by NCES Location						
	City Suburb (n=51)	Town (n=33)	Rural Fringe (n=25)	Rural Distant (n=84)	Rural Remote (n=59)	Total (n=252)
Disagree	51%	18%	16%	17%	5%	21%
Agree	49%	82%	84%	83%	95%	79%

To a lesser degree, the same pattern of having greater challenges in rural remote areas than in city or suburban areas was seen in perceptions about retaining teachers, but there was not a significant difference in views based on geographic locales. Slightly fewer principals (n=225) responded to this question. Rural remote principals (n=40, 73%) were more likely than principals in other locations to agree that their school faces a significant challenge retaining qualified teachers in some areas. Town (55%), rural fringe (52%) and rural distant principals (61%) agreed with the statement. City and suburban principals were least likely to agree (n=16, 46%). The difference in views on retention challenges based on NCES locales was not significant $p < 0.05$ ($p = 0.10$).

Salary. The Maine Education Association (MEA) provided the negotiated salary schedules for School Administrative Units. These data were linked to the principals' responses. The 2017-18 starting salaries for a teacher with a bachelor's degree ranged from \$30,000 to \$45,638. The higher salaries were in the southern region of the state. The mean minimum salary for a teacher with a bachelor's degree in districts where principals strongly disagreed (\$38,800) or disagreed (\$37,800) with the statement that it was a *significant challenge for my school to recruit and hire teachers* was significantly higher than in districts where principals agreed (\$35,000) or strongly agreed (\$33,800) with the same statement.

Table 2. Mean SAU minimum salary for Bachelor’s Degree Teachers Grouped by Principals’ Perception of a Significant Challenge for their School to Recruit Qualified Teachers in Some Areas.

	n =	Mean salary	Standard deviation	Median salary	
Strongly disagree	9	\$38,800	4300	\$39,000	*1, *2
Disagree	39	\$37,800	3800	\$37,000	*3, *4
Agree	63	\$35,000	2900	\$35,000	*1, *5
Strongly agree	107	\$33,800	2300	\$34,000	*2, *5

1 significant difference between strongly disagree and agree at $p < 0.05$

2 significant difference between strongly disagree and strongly agree at $p < 0.05$

3 significant difference between disagree and agree at $p < 0.05$

4 significant difference between disagree and strongly agree at $p < 0.05$

5 significant difference between agree and strongly agree at $p < 0.05$

The mean salary for teachers with a master’s degree at step 10 on the salary scale provided by the Maine Education Association (MEA) was used as a benchmark for mid-career teachers. The 2017-18 salaries for Maine teachers with a master’s degree at step 10 ranged from \$35,394 to \$68,961 across districts. Again, higher salaries were found in the southern region of the state. The mean master’s degree step 10 teacher salary was again significantly higher in the districts where principals disagreed (\$51,700) with the statement that *it is a significant challenge for my school to retain teachers in some areas*. No principal strongly disagreed with the statement. The mean master’s degree teacher salary at level 10, when principals agreed with the statement about retention being a significant challenge, was \$48,000. The mean teacher salary when principals strongly agreed with the statement was \$46,700. Thus, we found salaries were statistically significantly higher in districts where principals perceived that teacher recruitment and retention is a challenge.

Table 3. Mean SAU minimum salary for a Mid-Career Master’s Degree Teachers Grouped by Principals’ Perception of a Significant Challenge for their School to Recruit Qualified Teachers in Some Areas.

	n =	Mean salary	Standard deviation	Median salary	
Strongly disagree					
Disagree	81	\$51,700	6,300	\$51,000	*1, *2
Agree	64	\$48,000	6,600	\$47,000	*1
Strongly agree	52	\$46,700	3,800	\$46,000	*2

1 significant difference between disagree and agree at $p < 0.05$

2 significant difference between disagree and strongly agree at $p < 0.05$

Economic hardship. Data from NCES on the percentage of students in a school receiving free or reduced price lunch was used as a marker for economic hardship. In schools where less than 25% of students qualified for free or reduced price lunches, more than half of principals (55%, $n=23$) disagreed with the statement that it was a significant challenge for their school to recruit and hire teachers in some areas. Principals in schools with less than 25 % of students qualifying for free or reduced price lunch were significantly ($p<0.0001$, ($\chi^2=33.8$) less likely to agree (45%) that it was a significant challenge to recruit teachers than principals in schools with more than 25% of students qualifying for free or reduced priced lunches (85%).

Table 4. Principals' Perception of a Significant Challenge for their School to Recruit Qualified Teachers in Some Areas based on Percentage of Students Receiving Free or Reduced Price Lunch.

	Difficult to Recruit by Free/Reduced Lunch Percentage								
	< 25% Students Qualify		26%-50% Students Qualify		51%-75% Students Qualify		76%-100% Students Qualify		Total
	n=	%	n=	%	n=	%	n=	%	n=
Disagree	23	55%	16	22%	13	12%	1	9%	53
Agree	19	45%	58	78%	98	88%	10	91%	185
Total	42	100%	74	100%	111	100%	11	100%	238

When principals were asked if their school had a significant challenge to retain teachers, there was a difference between schools with less than 50% qualifying for lunch and those with over 50% qualifying for free lunch. In schools with fewer than half of their students qualifying for free or reduced price lunches, about half of the principals felt it was a significant challenge for their school to retain teachers in some areas. When the number of students qualifying for free or reduced priced lunches rose to more than fifty percent the percentage of principals agreeing or strongly agreeing it was a significant challenge for their school to retain teachers in some areas rose to approximately 70 percent. The difference in agreement with the statement about retaining teachers being a significant challenge for their schools between principals grouped by the percentage of students in their schools qualifying for free or reduced price lunch was significant ($p=0.033$, $(\chi^2=8.7)$).

Table 5. Principals' Perception of a Significant Challenge for their School to Retain Qualified Teachers in Some Areas based on Percentage of Students Receiving Free or Reduced Price Lunch.

	Difficult to Retain by Free/Reduced Lunch Percentage								
	< 25% Students Qualify		26%-50% Students Qualify		51%-75% Students Qualify		76%-100% Students Qualify		Total
	n=	%	n=	%	n=	%	n=	%	n=
Disagree	18	56%	31	49%	35	33%	3	27%	87
Agree	14	44%	32	51%	72	67%	8	73%	126
Total	32	100%	63	100%	107	100%	11	100%	213

Staffing ratios. One consideration was whether or not class size affects teacher recruitment and retention. One thought is that rural schools may have smaller enrollment and therefore have smaller classes. The other thought is that difficulty in recruiting and retaining teachers could result more students per teacher, when staff are stretched more thinly. We used student teacher ratio data to investigate levels of staffing. The NCES databank creates a student teacher ratio by dividing the number of students in a school by the number of Full-time Equivalent teachers (FTE). The mean student teacher ratio for all Maine SAUs is 11.8 students per teacher. An ANOVA test was run to compare the student teacher ratios in schools by the level of agreement that the principal expressed with the statement that their school had difficulty in recruiting and hiring teachers. The highest ratio, 13.9 students per teacher (n=9 principals) was seen in the group of principals that strongly disagreed that recruiting teachers was a significant challenge. The other student teacher ratios were “disagree” 11.9 (n=44), “agree” 12.1 (n=72), and “strongly agree” 11.6 (n=87) There was no significant difference between group means (p=0.08).

When principals were presented with the statement that retaining teachers is a significant challenge for my school, the mean student teacher ratios were about equal between the groups of principals who disagreed (11.7, n=87), agreed (11.8, n=61) or strongly agreed (11.9, n=87) with the statement. There was no significant difference between these means. Thus, we did not find that principals' perceptions about staffing challenges were explained by any differences in their staffing ratios.

Findings from three rural district cases.

Across the three district cases, district and school administrators and teachers identified both teacher recruitment and retention as pressing challenges. Some teachers we interviewed were more likely to view retention as the greater challenge. This is understandable, as it typically falls more to the responsibility of administrators to interview and hire teachers and other staff, and teachers are more focused on whether or not their colleagues stay in their positions.

Administrators in particular noted that recruitment and hiring have become a bigger challenge within the past ten years, as they are seeing dramatically fewer applications for advertised teaching and staff positions. For example, one rural district described receiving only one or two applications for teaching positions such as high school mathematics, elementary education, and special education. All three districts reported low levels of interest in their advertised teaching positions. By comparison, administrators had seen 20-30 applications for a teaching position a decade ago. One administrator said it was not unusual to see 200 applications for an elementary teaching position in a non-rural district in the 1980's. Administrators in all three districts were able to compare their experiences in rural districts to previous experience in less rural, higher enrollment districts with higher teacher salaries. They noted that while recruitment for some curriculum areas may be a challenge generally for most districts, they had seen larger numbers of applications for open positions in the less rural districts.

These rural districts identified similar areas of recruitment challenge as were identified as in the broader MEPRI statewide survey data. In the case studies, the greatest challenge in attracting applications and filling teaching positions were noted for elementary education and special education, followed by mathematics and science. Other staff positions that present significant hiring challenge include specialists in Special Education (e.g., speech and language therapy, occupational therapy, physical therapy, etc.), educational technicians particularly for special education, and guidance counselors. One district received four applications for two open positions for educational technicians in special education. Another district reported they had five applications for two open positions in guidance at the secondary grade level. Finding adequate staffing for substitute teachers was also identified in the interviews as a significant challenge for these rural districts.

The difficulty of teacher recruitment can lead to unfilled positions, which stresses a school's staffing capacity and impacts curriculum and services for students. The diminished pool

of job candidates in rural districts also leads to hiring less qualified teachers and staff. These and other negative consequences of the recruitment challenge are discussed in a later section of this report.

The three rural districts were selected for this study because they were within the top 20th percentile for high teacher turnover rates based on MEPRI's analysis of staffing data from the Maine Department of Education. Teacher retention had been a challenge for these rural districts for over a decade, but often fluctuated somewhat from year to year or across schools and grade spans.

Across the three districts, the areas of teaching with highest turnover included elementary education and special education. Other staff areas with retention challenges included educational technicians in special education and guidance counselors. One district reported a higher turnover rate recently for secondary English teachers, while another district reported that middle level mathematics had high turnover. These rural districts also noted that teachers who are relatively new to the profession and new to the district were more likely to leave for jobs elsewhere. For example, one district reported that among the 28 staff that left the district in the previous year, half (14) did so within five years of employment in the district. This turnover included staff in guidance and special education as well as regular education positions, and represented about 10% of their district staffing. While these districts reported they had no unfilled teaching positions in the current school year, two of the districts had unfilled positions for educational technicians in special education, Title 1 programs, and Gifted and Talented programming. One district reported they have been forced to fill some of the educational technician positions with long-term substitutes, who have less training to work with special groups of students, but that this strategy is increasingly difficult as qualified substitute teachers are harder to find in rural districts.

II. Factors Contributing to Staffing and Retention Challenges

In the interviews with the three rural districts from different regions of Maine, administrators and teachers consistently described many of the same factors that contribute to challenges for recruitment and filling teaching and staff positions as well as retention of teachers and other related staff. Two of the most prominent challenges cited include the rural characteristics and setting of the schools and the difficulty of competing with higher salary levels

in neighboring districts. Districts also described challenges that were specific to either hiring or retention. Factors deemed the most significant or problematic included the following:

Decline in supply of qualified candidates. All three districts noted the trend of sharply declining numbers of applicants for open teaching and other support staff positions, which makes recruitment very difficult and necessitates hiring less qualified applicants. Administrators in particular shared the view that there are fewer young people choosing to pursue regular or special education as a career, and a substantial percentage of those who begin teaching leave the profession within five years. An indicator of this decline is the shrinking number of graduates coming out of teacher education programs. Administrators in one district noted that only a handful of special education teachers had graduated in the previous year from a local university program, and that those graduates were quickly picked up by higher paying districts well before graduation. Appleview's superintendent commented, "It's really a difficult process of holding on to teachers. But I think the bigger issue is really about recruiting good people, who really are high quality teachers, who are willing to stay." A principal in Pine Hollow shared, "I hired people this year that three years ago I would not have interviewed, based on their application packet alone." The superintendent in Coopersville said,

As a general rule, we do not get a lot of applications. There was time, if you had a kindergarten position open . . . you would get maybe 30 or 40 applications. We got two for a kindergarten position.

Salary competition from neighboring districts. Administrators and teachers from all three districts agreed that their rural districts could not compete with neighboring districts for salaries. In addition, they noted that some neighboring districts had a shorter school day, and some offered stipends for teacher leadership roles. Starting salaries are an important consideration for new teachers who still have student loan debt to pay off. This financial challenge contributed to both difficulty in recruitment as well as retention of teachers. In Appleview and Coopersville, administrators described the struggle to get salary increases approved by voters, and they had been working to accomplish that. Yet, they felt their districts would never really catch up to salaries in neighboring districts because the gap is so large when teachers can earn five, ten, fifteen or \$20,000 more just a few miles away. A teacher in Coopersville commented, "We established what the current salary scale is, and it is an

improvement. However, is it competitive? No. the starting point is still not high enough.” The Appleview superintendent explained,

The fact is, our teachers are making sometimes \$10,000 less than what a [teacher in a larger district] does. I certainly won’t even compare them to the southern part of the state where they’re \$20,000 more. . . . It’s going to take multiple contracts and multiple years to be able to come anywhere near what we should be.

A teacher in Coopersville commented,

We started now having math coaches, which is great, but leadership positions are usually not paid. If you want to be a teacher leader and you want to take on projects, you do it for free. And you do it out of the goodness of your heart, because you want what’s best.

Characteristics of rural districts. Second to the factor of lower salaries, all three districts described how their rural setting presents a significant challenge for both teacher recruitment and retention. They described characteristics of rural communities related to geography, social or cultural factors, and economic opportunities. In terms of geography, rural districts are often large and spread over many miles, which means administrators and some teachers and specialists for special education may need to drive longer distances to serve various schools within the district. A principal in Appleview explained, “I’m split between two buildings, we have another principal who’s split between two buildings, our special ed teachers are split between two buildings, and my buildings are 25 miles apart. That’s pretty big, you know!” Geography also made it challenging for school personnel to find shopping, medical care, educational programs, or recreational opportunities which were not available in the rural districts. Housing for young, single teachers or families was another challenge in these rural districts. With respect to economic opportunities, some teachers were reluctant to work in these districts or left because there were few employment options for partners or spouses. Finally, some participants shared that moving into a small, rural community may result in social isolation if the local community is not welcoming to newcomers. One principal in Appleview described these challenges in attracting young teachers to the district: “It’s limited housing opportunities. There’s nothing for like any sort of social life around here. We’re quite a distance from even a grocery store.” Another principal in Pine Hollow stated, “I would say location. I think that hits a lot of them. That encompasses the pay, the ruralness of where we are, and the lack of resources around if you’re young.” The Coopersville superintendent explained, “I just started doing exit

interviews to try to get a sense of why people are leaving. And part of it, for us in this area, is there is just not a lot going on to keep them here.”

Qualifications of new teachers. With the small number of job applications they receive for teaching and other staff position, the three districts acknowledged that they have little choice over who they hire, and often end up with very inexperienced teachers. A principal in Appleview admitted, “At times, I think we lower the bar a little because it’s that or nothing.” A special education director in the same district said, “It’s like, ‘do we have an application? Are you breathing? I’m going to interview you and hope that you’ll take this job.’ I mean, we’re lucky if we even get an application.” The superintendent shared their concerns about the lower quality of applicants. “You’re dealing with people that really probably shouldn’t be teachers. But who are you going to replace them with?”

The newer teachers are often unprepared for the realities of teaching and lack the knowledge and skills to effectively manage challenging student behaviors in the classroom, and so get discouraged and leave. This problem reduces retention rates. A principal in Appleview explained,

We’re very high poverty. A lot of mental health issues. I see teachers who come in absolutely unprepared for the reality of what they’re walking into. They come in ready to do their lessons, and decorate their rooms, and all that stuff that is teaching.

At Pine Hollow, a principal said that all the kindergarten and first grade teachers and one of the second grade teachers were probationary. The other two districts faced a similar challenge with a large percentage of teachers being new or within three years of hire. The Pine Hollow principal shared this view: “Universities are not doing enough around behavior and mental health. Unless you can manage a classroom, and support those needs first, you will never be able to teach.” The superintendent in Appleview cited the lack of classroom management skills as a major reason that some new teachers leave. “That’s our biggest challenge for our new teachers coming directly out of school. They do not have the skills in classroom management they really need here.” A teacher at Coopersville stated, “The high poverty level in rural communities, and the social-emotional drain on students and teachers. I think we’re seeing an increase in student behaviors.”

Decreased availability of educational technicians and specialists. Rural districts sometimes lack the resources to fully staff their schools. Teachers in Appleview emphasized the importance of support from educational technicians and other specialists for special education.

When they were not readily available, teachers struggled to manage students' needs and behaviors in the classroom. Teachers cited the lack of classroom support as a major factor contributing to low teacher retention. They were hopeful that the current administration would provide more support, and some were seeing positive changes at the building level. One teacher explained how critical principal support is to teachers,

I wouldn't want to stay here forever if I didn't feel like [principal] had my back. If she's supporting me and trying to get the student in my room the help that the child needs. . . . I think the biggest reason for [teacher] turnover would be a lack of administrative support.

A principal in Appleview admitted that he and an assistant principal often support teachers who have students with behavior issues, due to the lack of a behavior specialist in the school. By contrast, teachers in Coopersville felt their district made a good effort to hire sufficient numbers of special education teachers and educational technicians, but they still struggled to recruit enough applicants to fill these positions with high turnover.

Increased caseloads and paperwork in special education. In recent years, attention has been given to the problem of increased caseloads and increased time spent completing paperwork, both of which reduce the time special educators have to work directly with students and oversee other staff who work with students. Increased time spent on paperwork is a factor associated with lower levels of intention to stay in special education (Gersten, Keating, Yoovanoff & Harniss, 2001; Nance & Colabrese, 2009), as is increased caseload assignments (Berry, Petrin, Gravelle, & Farmer, 2011; Billingsley & Cross, 1991). Administrators in Appleview talked about the challenge of retaining special education teachers and the budgetary constraints that limit their ability to hire enough staff to meet their needs. This also makes it harder to compete with neighboring districts that may offer teachers more staff support. An assistant superintendent said, "We lost a lot of special ed teachers last year. Part of that is . . . as we know, it's a tough gig. Those folks, they have a lot on their plates." The special education director in the same district shared that she had tried to encourage a teacher to return to special education, but the teacher had replied "I don't want to spend my time doing the paperwork. I want to work with kids." The director also described how other districts may appear more attractive when they provide coordinators and lower caseloads for special education teachers. In Coopersville, the district had seen high turnover in the special education staff and educational technicians, but did not offer insights into the reason for that turnover.

High turnover in district and school administrative leadership. Both Appleview and Coopersville participants believed that the high turnover in school and district administrative positions in recent years had negatively impacted their effort to recruit and retain teachers. They are working toward longer tenures for their administrators, but also face the reality that they cannot offer administrators highly competitive salaries. Administrators and teachers explained that the frequent change in leadership meant different visions and priorities each time, that reduced teacher morale. Teachers within their first five years of teaching at Coopersville counted three different superintendents they had worked under in this district, and three different assistant principals. Similarly, at Appleview, the district had seen eight superintendents in eleven years, five special education directors in five years, and five high school principals within six years. These rural districts feel they have been viewed as “stepping stones” to larger districts with greater resources. One teacher in Coopersville commented, “They’ve seen the turnover, and they’ve seen the struggles in this building, so they’re like ‘I’m not going to even bother going there.’” Teachers at Coopersville described how, under a former superintendent, the district had a practice of letting teachers go just prior to their third year and continuing contract in order to keep salaries low. So there were always large numbers of probationary teachers in the district. Teachers in Appleview were more hopeful that their district would keep their administrators longer. One teacher commented, “We have a lot of turnover, in administration as well as staff. I think the more stable the administration becomes, it will give more stability to the staff, and the retention would probably be better.”

Dissatisfaction with career choice. All three rural districts described their experience with hiring new teachers who soon realize that teaching is not what they expected and leave within three to five years. Unrealistic expectations about this career, combined with brief experiences through student teaching, can make new teachers unprepared for the realities of teaching. This phenomenon contributes to low teacher retention, and has been described in the broader literature nationally (DeAngelis, Wall, & Che, 2013; Feiman-Nemser, Carver, Schwille, & Yusko, 2000). In our case districts, young teachers who became discouraged in their rural district placement most often moved to other districts rather than leaving the field of teaching entirely. A principal in Pine Hollow commented, “It almost feels like you’re walking on egg shells, trying to keep them [new teachers].” A teacher from the same district said, “I think they probably think the grass is greener a lot of other places.”

Career expectations of young teachers. Administrators in Applevue described how new teachers' career expectations and pathways differ from teachers' careers in the past. Whereas teachers traditionally submitted few job applications and were content to stay in one district for their entire careers, new teachers today use the convenience of online platforms to submit numerous job applications across a wide range of districts. Administrators indicated these applicants often delay their acceptance of an offer in order to obtain an optimal offer. Besides a higher salary, or shorter school day, young teachers also seek out other types of job perks and opportunities. Once hired, it is not uncommon for teachers to quit their position and move to a more attractive district, leaving the first district with a vacant position during the school year. Administrators noted that younger teachers today are more likely to move around several times during their career, and are not "loyal" to one district. The career expectations for new hires today have implications for teacher turnover and low retention. The special education director observed,

The age group of graduates and professionals that are out there now, younger than me, the millennials, they'll go wherever it's good. They'll go where their friends are working. They'll go where the money is. They will go where there's better benefits. They will go. There's no allegiance. . . It used to be that teachers would go back to their hometown and teach in that school and be there for 30 years.

Lack of clarity around credentialing. Our interviews uncovered a lack of clear understanding about the current state rules around certification of teachers, particularly special education teachers, and credentialing for educational technicians. Although state policymakers have discussed making changes to the rules, there has actually been very little change to date. One change made recently was to require conditionally certified special education teachers to complete a year long content and mentoring course (6 credits). This was part of a federal requirement intended to ensure that teachers receive mentoring and to improve teacher retention. Special education teachers must have a minimum of a bachelor's degree (in any subject) with at least 24 credits in special education completed as part of that degree or post-degree. While some special education teachers seek a bachelor's degree in education or special education, many use pursue that career through the alternate route.

Educational technicians may receive credentialing based on a minimum number of educational course credits, with no training in special education required. Educational

technicians at Level I simply need a high school diploma or GED to be credentialed, while educational technicians II and III need to have completed 60 and 90 college credits respectively. Educational technicians can become credentialed without specific coursework in education or special education, and are employed by schools to work in many different contexts—both with students in the classroom and to provide general staffing support in the lunchroom or playground.

In the interviews we conducted in rural districts Appleview and Coopersville, administrators and teachers held the perception that the MDOE had recently increased course credits for special education teachers and educational technicians, and that this change was creating a barrier to hiring fully credentialed teachers and staff. Subsequently, we were informed by MDOE staff that the change was minimal as described above, and only pertained to conditionally certified special education teachers. It seems that the real challenge then for these districts is not so much keeping up with changing rules regarding credentialing, but rather finding enough potential candidates in the state who have completed the required training. A further challenge is accessing needed courses from remote, rural areas, although many of the special education degree programs in Maine are offered as online courses and programs. Some of the comments regarding the difficulty of recruiting credentialed staff in special education included a statement from the special education director in Appleview: “Right now, the challenge of having special education teachers certified is really tricky. The new regulations surrounding that have made it even more difficult.” A teacher in Coopersville explained, “An ed tech III has to have 90 college credits. And so, if you’ve gotten to 90, you finish your degree.” Another teacher commented, “There aren’t a lot of people in this area with the amount of college credits that we need to fill these positions, because it’s 90 college credits.”

The challenges described in the preceding paragraphs were all viewed as major factors contributing to difficulty with teacher recruitment and retention in the three rural districts we studied. In addition, there were other factors that were also mentioned by one or two of the districts and were considered important but not the most critical factors related to staffing challenges. These are described in the following paragraphs.

Part-time positions less attractive. Administrators and teachers in one district, Coopersville, discussed how their district struggles to attract teachers and other staff positions that are part-time. Educational technicians, special education specialists, and allied arts teachers

(art, music, physical education) are often employed on a part-time basis and shared across schools within a district or across districts. Yet these professionals often prefer full-time positions that provide better wages, benefits, and the opportunity to be more fully integrated into the district. The lack of full-time positions for these personnel contributes to the challenges of both recruitment and retention.

Public perceptions about education. Negative “messaging”, media reports, and public perceptions about the quality of education and effectiveness of educators in recent decades, both nationally and locally, were cited by administrators in the three rural districts as factors that contribute to the problem of reduced numbers of young people seeking a teaching career. This context means fewer people are in the pipeline and available to fill open positions. The superintendent in Appleview summed up the problem in this way, “Our culture and our view towards teachers is seriously impaired.” The special education director in the same district said, “I also think that teaching doesn’t have the glory that it used to, or the prestige. I think the kids that are graduating now do not have a whole lot of fond memories of school.” A teacher in Pine Hollow posed a challenge to policymakers,

I would like to ask policymakers to think about how they can be allies, in championing the work that teachers are doing. Because when we think back to why we are not attracting teachers to the profession . . . what are we doing to shine a good light on education and what’s happening [in classrooms]?

Low parent or community interest and investment in education. Administrators and teachers in Appleview both noted that the low level of interest and support for education locally. The superintendent in Appleview related the difficulty of getting parents and community members to attend informational meetings and gaining voter approval for small increases in salaries. He explained, “We see poverty issues. Lack of teachers. Lack of community involvement. All having a huge, huge impact on what we do in the schools.” The problem of low community support can be a recurring problem. With a constrained budget, the district cannot hire as many teachers and educational technicians as are needed, or retain teachers. Parents notice the high turnover and high percentage of new teachers each year and lose confidence in the school system which, in turn, makes it difficult for the school to gain approval for budget increases. Where the school and community partnership is not strong, the work of educators becomes more challenging and newer teachers become frustrated and leave for other districts.

Low mentoring support for new teachers. Teachers in Appleview and Pine Hollow described how their districts had traditionally provided only minimal mentoring support for new teachers. Part of the problem was the lack of sufficient numbers of veteran teachers in the district with the high turnover and younger teaching force. A Pine Hollow teacher commented, “We don’t have the capacity to mentor all the teachers who need it.” A principal in the same district explained, “It takes a lot of effort on the part of everyone in the building . . . everyone’s trying to just keep them [new teachers] afloat.” Another factor was the small size of the schools and driving distance between schools. A teacher in Pine Hollow described the challenge of finding time to mentor, which might need to happen after school when there are no planning periods or substitutes available. Budgeting for financial incentives for mentoring teachers was also a barrier, as a principal in Pine Hollow related.

We are hesitant to ask mentors to attend trainings or sessions without some kind of compensation. The \$250 stipend for mentors right now doesn’t really go far. . . . Some of our teachers are mentoring as many as four people.

Recognizing the importance of mentoring for recruitment and retention of new teachers, the new leadership in Appleview instituted a new teacher induction program in collaboration with new teachers and teachers are excited about this new support. Much of the professional development is focused on classroom management and managing challenging student behaviors, as well as Response to Intervention and making referrals to special education, as requested by the new teachers.

III. Impacts of Teacher Staffing and Retention Challenges

Administrators and teachers in the three rural districts we studied described similar negative impacts for teachers, students, parents and their school systems when teacher turnover is high and districts cannot attract enough applicants to fill positions with highly qualified candidates. The impacts described fell into six broad categories: reduced teaching efficacy and support to teachers, reduced staff morale, reduced capacity to support new teachers, reduced community confidence in the school system, increased costs for teacher training, and stalled curriculum and school improvement efforts. These negative impacts are described in the following section with a few representative comments.

Reduced teaching effectiveness and support to students. As described earlier in this report, these rural districts struggled to attract applicants that had experience and the appropriate

certifications in their area. More often, these districts attracted brand new teachers who lacked experience in the classroom and managing student behaviors. Additionally, with the state's increased course requirements for certification of special education teachers and educational technicians, districts also struggled to find and hire special education staff with the necessary certifications. Typically they were not fully certified, and the districts needed to subsidize the cost of additional coursework for their new hires. A district administrator in Appleview commented, "The district does pay for courses, we try to make that attractive to people as well. . . if you can get conditionally certified and, sometimes, that's frankly what we end up with." A principal in Coopersville shared,

When you are scraping the bottom of the barrel so to speak, it's hard to get the kind of candidate you're looking for In special ed right now, we're kind of filling [positions] with maybe those that weren't all necessarily qualified, but have been working towards that qualification.

Hiring staff with less experience and credentials meant teachers had lower qualifications and less expertise to teach in their content areas in regular education or in special education. The chief concern was the reduced efficacy of teachers in supporting student learning and managing behavior of students. Administrators and teachers noted that their districts struggled to improve students' test scores in the face of high staff turnover and lower levels of teacher efficacy. As one teacher in Appleview observed, "This is year four for me, and I've already been here longer than almost half the teachers. And usually the teachers that stay are the ones that live in the district or graduated from here."

Less experienced teachers also needed to rely more on administrators to assist with behavior management. A special education director in Pine Hollow observed, "I get more and more kids in RTI [Response to Intervention] every year that I'm trying to support those new teachers, because they [new teachers] don't have that toolbox for behavior [management]." And less experienced teachers struggle to support students' special needs in the classroom and to implement effective interventions, particularly with challenging student behaviors. A principal in the same district commented, "Many of them [students] have developed behaviors that maybe had they had more seasoned teachers, could have been curbed earlier."

When qualified teachers and educational technicians were not available for hire, districts had few alternatives to fill critical positions. They relied more on long-term substitute teachers

and had some staff working outside their areas of certification. A teacher in Coopersville noted the negative impact of employing teachers outside their areas of working outside certification, “I think they [teachers working outside certification area] are definitely lacking in content understanding and so . . . they’re having to learn as the students are.” A principal in Coopersville described how the use of long-term substitutes hinders the academic progress of students,

They’re [students are] obviously not getting the quality of education that they deserve.

We had a long-term sub, he was wonderful . . . and what he did was he managed the class. So, in terms of moving them forward in math, that did not happen.

Administrators and teachers shared strong concerns about the lack of sufficient staffing and adequately experienced staff to support the needs of students in special education. This problem negatively impacted students, teachers, and administrators. When specialists were not available in the school, administrators were called upon to help teachers cope with disruptive student behaviors in the classroom. With constrained budgets and difficulty in attracting qualified special education teachers, educational technicians, and specialists, the special education staff were spread thin across schools in the districts, and teachers voiced concerns about the lack of appropriate supports both in the classroom and in resource rooms. The superintendent in Appleview said, “We do our darnedest so it doesn’t impact the children, but if you have fewer people, resources, it does impact children.” Other administrators described how students don’t get as much time with specialists or Title 1 teachers and educational technicians as they need, due to staffing shortages. A teacher in Appleview described how a student with Autism needs time in the resource room because the classroom can be overstimulating, but there is not enough staffing to accommodate the student in the resource room. Teachers from all three districts perceived a lack of support available to them in the classroom given the small number of educational technicians and other specialists in their districts.

Another negative impact of the high staff turnover for special education students was the interruption of the teacher-student relationship that can be so critical for helping a student progress in their IEP and to effectively manage and improve student behaviors. When special education teachers or educational technicians leave the district, new staff are assigned to students. This becomes a constant phenomenon each year, and is difficult for both students and the regular education teachers who work with these special educators. A teacher in Pine Hollow shared, “This is my fourth year and this is my fourth special ed teacher.” A teacher in Appleview

commented, “Well, it impacts the students because these two special education teachers that left had developed relationships with the students . . . and they were very good at knowing what to do.” Similarly, a teacher in Coopersville explained, “A lot of those kids [in special education] actually really need the stability. That’s the biggest piece that they need. And when they’re changing out [teachers] and they have the uncertainty, that escalates some of their behaviors.”

Reduced staff morale. High staff turnover can reduce the morale of administrators, teachers and staff, and also impact students and the broader culture of the school. Teachers in the three districts we studied described feeling discouraged by the high turnover and problems attracting qualified staff. They also felt depressed or sad when their efforts to develop professional relationships with new teachers ended with those teachers leaving for jobs elsewhere. For teachers, having trusting relationships with their colleagues is a critical resource for supporting their professional growth and job satisfaction, as well as helping teams of teachers to work collaboratively on improvement efforts. With high turnover, teachers feel more isolated and unsupported in their work. A principal in Appleview commented, “And I think emotionally it can be challenging too, for, you know, the fact that we haven’t been able to fill these positions. That takes a toll on people.” A teacher in the same district shared, “You make a connection with a teacher and then after a year or two they move on, and you don’t have that connection anymore.” A principal in Coopersville observed,

Building relationships and trust takes a long time. When that’s constantly turning over, some staff will just shut out and just be on their own . . . “I’m not doing this again. . . I’ve already tried to build relationships with John, Sue, Sally and they’re all gone somewhere else. I just don’t have the energy anymore.”

In addition to the negative emotional toll that high turnover has on teachers, there is also the reality that the few teachers who are more veteran will be asked to shoulder more of the non-teaching duties and workload. Newer teachers need to be mentored and may not yet be prepared to take on curriculum development or other leadership work in the school. Similarly, when teaching positions are unfilled or filled with less qualified staff, there are fewer people to share the workload. The extra workload for more veteran teachers, who are few in numbers in these rural districts, can seem unfair and unsustainable. A district administrator in Appleview shared, “You look at just the health, well-being of a staff, and their morale and all that, because there’s one additional thing that they think we have to do.” A teacher in Coopersville commented, “. . .

people who are probationary, they're not going to necessarily take on leadership roles yet. So that gap creates equity issues as far as workload." A teacher in Pine Hollow said, "It's more added stress and work because we're mentoring all the time and drowning in our classrooms at the same time." And a teacher in Appleview explained, "When you have people come in who are brand new, they're not able to take on those pieces yet. Because they're just not ready . . . But then the people who are still here, it's like more and more and more."

In the interviews, administrators and teachers expressed the view that when staff morale is impaired, it trickles down to a negative impact on students and their feelings about their school, and more broadly impacts the culture of the school. A teacher in Coopersville commented, ". . . with so many changes, the institutional knowledge and the school culture and climate is really challenging, because there's constant upheaval. That affects our students." Further, there may be less feeling of school pride and confidence in the school. Students may feel less confident that teachers care about them and are invested in students' learning and success when they lack long-term relationships with teachers in the school. And teachers sometimes withdraw into their own classrooms and give up on reaching out to newer teachers and making time to develop professional relationships with colleagues when they know staff are likely to leave the school over the short term.

Reduced capacity to support teachers. Having high turnover, a large percentage of non-veteran teachers, and staffing shortages or unfilled positions means the school and district have a reduced capacity to support both new teachers and veteran teachers in their distinct professional growth needs. As one relatively new teacher in Appleview commented, "Not too many veteran teachers have really checked in with me." A teacher in Coopersville shared, "There's been years that we haven't had enough mentors, because we've had so many new people. We've had to double up." One teacher in Pine Hollow said, "There's supposed to be a person [coach] who's a resource and support for you. When that relationship is changing, you're teaching the coaches." Another teacher in the same district admitted that the burden of mentoring new teachers can reduce time and energy for teaching. Pine Hollow T "I am so busy trying to help all of these new teachers that it stretches me way too thin and I can't give my students what I should be."

As described earlier in this report, high turnover and reduced numbers of experienced and qualified staff for special education and other specialists also mean that regular education

teachers have less support in the classroom to assist special education students. Given that most of the teachers in these rural districts were relatively new to teaching, they struggled to figure out how to support students and manage difficult behaviors without the expertise that special education staff could provide. The problem of adequate staffing and credentials for special education was a major concern for administrators, and both new and veteran teachers in these rural districts, and was cited as an important factor in teacher decisions to move to another district. A principal in Appleview said, “For a teacher that’s got seven students with IEPs, supporting that teacher. That’s the impact.” A principal in Pine Hollow commented on the lack of sufficient staffing in special education, “We just don’t have enough human capacity to support teachers the way that we should. That goes for veteran teachers. I think veteran teachers would say the same thing, that they need support in behavior that we just don’t have.”

Reduced community confidence in the school system. Earlier in this report, we connected the dots in the feedback loop of school district funding and public confidence. Lower levels of confidence can reduce public support to pass school budgets and requests for additional funding, and reduced funding hinders districts’ ability to fully staff their schools and pay competitive salaries. The three rural districts we studied perceived lower levels of public confidence in their schools due to the on-going challenge of attracting and retaining experienced and credentialed teachers. Parents notice when there is a lack of continuity in teaching staff and there are few veteran teachers. Both parents and school board members wonder why their school is less attractive to applicants. A principal in Pine Hollow commented, “. . . if a school is continuing to lose teachers, the parents are probably thinking, ‘Why? What’s wrong with our school?’”

While rural districts struggle to retain experienced teachers and other staff, they also struggle to retain building and district administrators for the same reasons—less competitive salaries, fewer employment options for spouses, and long commutes or travel for shopping and other amenities. The high turnover for administration in rural districts can also lower the public’s and teachers’ confidence in their leadership. One teacher in Appleview observed, “Our principal, this is his third year . . . he came in with only two or three years of teaching experience. . . . It’s hard to have credibility when you don’t have the experience.” Another teacher in the same district concluded, “A school is always under a magnifying glass. If you have an experienced

staff, administrative and teaching staff, the community has more confidence in what their decisions are.”

When teachers are predominantly new in the profession and less experienced, parents may not feel teachers are providing the supports their children need to progress, and may also feel dissatisfied with the level of communication they receive from teachers. Traditionally, parents have looked to teachers for answers as educational experts. When teachers lack experience, parents cannot get their questions answered. Administrators and teachers in the three rural districts commented on this problem. For example, a principal in Pine stated,

Parents are really feeling they’re not getting the same level of communication that they would get from someone who is more seasoned. They don’t feel like they’re getting the answers or the feedback from the teacher that maybe they would get from someone who had a little more experience.

Increased costs for teacher training. One obvious negative impact of high staff turnover is the additional expense districts face in supporting the training and credentialing of new teacher and staff hires. With large numbers of new teachers and other support staff hired each year, the three rural districts we studied were frustrated with the financial cost to support training and additional college course credits needed to meet state certification requirements. Additionally, the districts struggled with inadequate human capacity to provide mentoring, support and supervision for new hires. The special education director in Applevew shared her frustration, “I was finding that every year I’m going to have to send a whole new group of people to be trained. Because as soon as I train them, they leave.”

The frustration over supporting the training of new teachers, special educators and educational technicians extended also to the training of coaches. Districts invested considerable funding and time to support new teachers and coaches, only to see them leave for positions in higher paying districts. Thus, in many ways, rural districts in Maine with less financial and human resources are bearing a larger burden for training new educators and credentialing them to work in higher resourced districts, saving those districts from that expense. A teacher in Pine Hollow observed, “We’ve kind of become the spot where coaches get trained and then they go somewhere else.”

Stalled curriculum and school improvement efforts. Continuous turnover in staffing also hinders the work of teachers and schools to develop and implement new curricula and

practices to improve teaching and learning. Most of this work is accomplished through teacher leadership and teams of teachers. When teachers are new, they may not be prepared to take on this extra work, and the work falls to the few veteran teachers available.

School improvement work takes time--sometimes a few years, to develop support to pursue a new initiative, train administrators and staff, and then expand and implement change. When administrators and staff turnover, that buy-in, training and knowledge are lost. New administrators and staff need time to get up to speed, and the district is hit with additional training costs. As one teacher in Appleview explained, "It's disheartening. Because you start, it feels like you've gotten a collective staff knowledge on a math program or a behavior program, and then half of your staff leaves and you have to start all the way at the beginning, and it can be disheartening." Difficult to follow through with planned work to implement new curricula when turnover is high. Another teacher in the same district commented, "We got a new math program. . . . I was paid to take classes, and you know, professional development and everything. But so much of the staff had changed, they had no concept of it."

When work on implementing new curricula or practices stalls, students are negatively impacted. For example, students may not have access to improved instructional approaches in math or reading, appropriate interventions or effective management of behavior. Further, work to improve practices across grade levels may see gaps when some teachers have not been part of the change effort and training. A principal in Pine Hollow stated, "Many of them [students] have been shortchanged in the curriculum." The long-term positive impact of these changes will be reduced when schools cannot maintain a consistent approach. A teacher in Coopersville shared,

People are always trying to kind of get to know each other and get to kind of really build those teams and build those larger teams. That makes it really challenging when you have constantly turning over. . . . it's challenging for them to give continuity of programing for students.

When asked about what the future holds for curricular offerings if rural schools continue to struggle to fill or cannot fill regular and special education teaching positions, administrators acknowledged the potential for both a narrowed curriculum and reduced student support, which would likely result in lower student achievement and success in school. A principal in Appleview put it this way,

We'll see larger class sizes. We'll see fewer class offerings . . . we'll see larger caseloads in regards to special education. We'll see increased behavioral issues because of larger class sizes. We'll see decreased test scores and decreased academic performance because of class sizes.

IV. District Strategies to Improve Recruitment and Retention

The three rural districts we studied were using a variety of strategies to improve their ability to attract and retain teachers and other staff. Yet, overall, administrators seemed pessimistic about their ability to compete with higher paying districts in communities that offer young teachers better housing options and other amenities. We describe these strategies in the following section.

Beating the bushes. Administrators described their attempts to fill teaching and staff positions by advertising in a variety of venues and getting their job postings out earlier. Districts used the fee-based online site “servingschools.com”, various social media tools, and word of mouth to get the word out about open positions. In Coopersville, administrators made appeals within their community to encourage more interest in the educational technician career path. Districts called up teacher preparation programs to ask about teachers that may be graduating and ready for placement. They called their peers in other districts to ask about teachers that may be thinking about relocating. They checked daily to see if there were new applicants to be interviewed. Yet, by and large, districts felt their efforts were not producing any increase in applications. They noted that all the other districts in the state were similarly beating the bushes to fill high need positions such as special education teachers, educational technicians, math and science teachers. A principal in Coopersville described the effort to drum up potential job applicants this way,

Actually I tend to get on the phone a lot with colleagues around the state or around locally, and kind of pick their brain about candidates that they've let go in the past, or those that they know are looking for something elsewhere. I've also contacted universities . . . and see if they have anybody they'd recommend or send our way.

Paying for teachers' coursework for certification. As described earlier, these rural districts generally attract a small pool of applicants, most or all of whom lacked full credentials or certification in their area as they enter the workforce. With few other options available, districts are hiring less credentialed teachers and are subsidizing their training and college course

credits to help staff obtain certification in their areas. Yet, as we've described, this strategy has not been effective in the long-run, as teachers tend to leave once they have some experience and their certification. A teacher in Coopersville observed, "They'll pay for you to take classes and to continue your education. The challenging piece with that is once you get your education, people leave." To reduce that trend, Coopersville instituted a new practice of requiring teachers to stay at least three years after a teacher earns a master's degree if the district supported the tuition cost. If the teacher does not stay the additional three years, he or she must repay the district half of the tuition cost. It's too soon to know if this strategy will have the desired impact of retaining teachers longer. A principal in that district was hopeful the investment in new teacher training and coursework would pay off in improved retention. "If you're putting all that time and effort into those younger teachers, you really want to get the most bang for your buck, which is to keep them and hold onto them for as long as possible." The same district was also considering the idea of providing evening courses for people interested in becoming behavioral health specialists, as this is a high need area in short supply.

Customizing teacher professional development. Another initiative mentioned by administrators in Coopersville was to try to customize teachers' professional development to support their different professional growth needs. This is an approach that many districts in Maine are moving toward as part of their implementation of Performance Evaluation and Professional Growth (PE/PG) systems for principals and educators (Mette, Fairman, Lech and Frankland, 2019). A principal commented, "So you find ways to individualize that professional development so that it's relevant to what the individual needs." A teacher in the same district noted she felt the district supported teachers taking risks in the effort to learn and grow professionally.

. . . it's okay to make mistakes and we're all kind of really embracing that. When we think about the PE/PG model in particular, we've really been trying to emphasize the need for growth and learning and our administrators have been trying to model that I think more, which has been nice.

Strengthening new teacher induction. In Appleview, administrators described their effort to redesign their teacher induction program for both new and other continuing contract teachers. They realize that supporting new teachers is an important part of retention. They collaborated with teachers to identify the professional development topics for which teachers felt

the greatest need, such as learning effective strategies to manage student behaviors, and provided on-going training for teachers. Teachers were very positive about the training, and felt this was an important step to improve their ability to retain new hires. A teacher in Appleview shared her perception,

I think that the induction program is different now, and it's more of just gathering those new people together to get support and answer questions. And I think it has been more helpful. I know some people have been really pleased with it.

Providing training on classroom management and student behavior. All three districts were attempting to support teachers and staff with additional workshops and training on strategies to manage student behavior, by contracting with a university or agency. A teacher in Appleview said,

We're starting the PBIS [Positive Behavioral Interventions and Supports] [training]. I really feel like that's going to help with staff morale and really pushing positive behaviors and positive concerns. I think that's going to help us have a better support system to move from.

Another area of interest was training on trauma-informed practices in view of greater awareness of students' experiences with trauma that impact their well-being and school success. A teacher in Pineville explained,

We've had a couple instances where community agencies have come and presented at staff meetings so that we're a little bit more informed about how that [trauma] manifests in our classroom and that some of the behaviors, likely, that we see now are results of trauma.

While the additional training support was appreciated by teachers, the underlying concern was the lack of sufficient staff coverage and experience and high caseloads for special education teachers and educational technicians across the district.

Increasing salaries. These rural districts recognized the need to offer more competitive administrative and teacher salaries to attract a larger candidate pool and retain their employees. The superintendent in Appleview had made this a major goal and was pleased that the new contracts had modest salary increases. He also reasoned that if his district could obtain more stability with the administrators, that teachers would be encouraged to stay longer too. However, despite efforts to obtain salary increases and increase their budgets for classroom support,

administrators and teachers were skeptical that they could ever catch up to neighboring districts. Salary levels and staffing numbers will likely continue to be lower than ideal for these districts.

A teacher in Appleview said,

I think that our contracts have gotten better. We're gotten a little more money. . . . I think that the administrators would like to give us more money but, of course, you know, it's just a very poor community. And you start raising taxes and the budget may not be approved. That's just a catch-22.

A principal in Pine Hollow stated,

We pride ourselves on our low per pupil spending. And it's coming back to bite us, because we don't have the behavior supports that we need in schools, in this area anyway. It's really, I mean, we pretty much put teachers out there by themselves to figure it out.

Converting part-time positions to full-time. Recognizing that part-time positions are not as attractive as full-time positions, Coopersville worked to make a part-time literacy specialist position a full-time position. However, the selected applicant did not meet the qualifications of the advertised position, and the district had to revise the job description and support the tuition cost to help the staff member meet certification requirements. Where districts can muster the salary support to afford full-time positions, they may improve their ability to attract and retain teachers and other specialized staff.

Reducing teachers' workloads. In Coopersville, administrators have tried to reduce teachers' workload by having administrators and educational technicians assume more of the non-teaching duties during the school day, such as lunch duty, recess duty, or bus duty. This effort may increase teachers' job satisfaction and retention rates, but it is too early to determine the success of this strategy.

Creating leadership opportunities for teachers. Administrators in Coopersville described efforts to create new opportunities for teacher leadership in their schools. This may also have a positive impact on teachers' job satisfaction and retention rates in the future. One teacher observed,

I also think another factor is, and we're kind of getting there, which I think is good, is that there are not a lot of leadership opportunities for teachers in rural areas that do not lead out of the school.

Previous MEPRI reports have examined district and school supports for teacher leadership in Maine and found very uneven levels of support and attention to this professional need (Mette, Fairman & Dagistan, 2017).

Re-culturing the schools. As described, high turnover in schools can reduce staff morale and negatively impact the broader climate and culture within a school. In the interviews, teachers described some of their own initiatives to strengthen professional relationships among teachers to improve collegial support, collaboration and increased loyalty or sense of belonging within the school. One experienced teacher who was fairly new within the Appleview district described how he made it a habit to stop by the classrooms of new teachers and chat with them and let them know someone cares about their success. He also invited new teachers to have dinner and attend a football game to get better acquainted socially. This teacher and other relatively new teachers also instituted the practice of greeting students at the front door of the school in the morning to improve teacher-student relationships. This practice had the added benefit of helping these teachers get to know each other better, and they began to collaborate on other activities in the school. Similarly, a teacher in Pine Hollow described how teachers in her school instituted a monthly gathering for teachers and their spouses to interact socially and build relationships.

As a staff, to just kind of create more of a community, we have first Fridays. Literally, a gathering where it's off campus. It sometimes includes spouses or significant others. Just to create some sort of camaraderie and safety net.

Administrators also worked to improve the culture within their schools. A superintendent in Appleview described how the frequent administrative turnover and a less collaborative leadership approach had soured the relationship between administration and staff. He made a concerted effort to improve the culture through his communications with staff about how each member of the district is important, and to make sure new teachers feel supported through the induction program for example. Administrators and teachers are beginning to see positive changes in the district climate and relationships, and a small decline in the turnover rate. The superintendent explained, "It's really about building that relationship with our teachers, because I also believe people have got to know that we care about them." A teacher commented, "Each year it [turnover] seems to be getting less and less, which is good. It speaks to the [district's] ability to keep teachers here." Administrators in Coopersville were making similar efforts to improve the culture within schools. A principal explained,

Changeover in administration can be tough, but I think the biggest thing is, in leadership in general, is developing that culture and climate where people feel valued and supported and communicating clear expectations and a shared vision.

Conclusions

Based on our examination of the findings from this study, other recent MEPRI studies, and the research literature on teacher staffing and retention trends, we can offer some broad conclusions here, followed by some ideas for consideration by local and state policymakers.

Most principals responding to our statewide survey indicated that teacher recruitment is a significant challenge for special education teachers and some content areas, and a majority of principals indicated that teacher retention is also a significant challenge. The areas of greatest challenge include: special education, mathematics, science, world languages and music. These findings are consistent with national trends. Teacher turnover or attrition for regular education is high: about 7% of teachers leave the field each year in Maine, and about 10% do so across the Northeastern states. Yet, the attrition rate is even higher for special education teachers at 40% according to one study.

Maine schools experiencing the greatest challenge in teacher recruitment and retention have certain characteristics: they are more rural, their students have higher levels of poverty, their teachers tend to be less experienced and credentialed, teacher salaries are statistically significantly lower than in other districts, and their teachers and staff tend to be more mobile—typically leaving to take jobs in higher paying districts in more urban or suburban areas.

Many of the same factors that contribute to the teacher recruitment and retention challenges in Maine have been identified more broadly in the literature and pose a challenge for policymakers nationally. Chief among these are: 1) the low number of teachers seeking a career in certain areas (e.g., special education math, science, world language, and music); 2) the significant differences in teacher salaries across districts and bargaining units, often just a few miles apart; and 3) the characteristics of rural communities that often make them less attractive to new hires and their families.

The recruitment and retention problems have wide-ranging impacts for schools, teachers, and especially students, as described in the interviews and in the research literature. Less experienced or qualified teachers and special education staff (e.g., educational technicians) are less effective in helping to support students' academic achievement and managing and improving

challenging student behaviors. Unfilled teaching or staff positions mean educators are spread more thinly and teacher student ratios are higher than average, as may be class sizes as well. High teacher turnover reduces the morale of teachers, over-burdens the veteran teachers trying to mentor young teachers, and disrupts the implementation of needed school improvement efforts. Schools face higher costs to help less qualified educators finish their required coursework, and repeated costs for training and induction of new teachers, all at the same time that their school budgets may be more constrained and the local public confidence is diminished. In fact, this appears to be a major inequity among Maine school districts: smaller districts with fewer resources are assuming a larger burden for training new teachers who do not stay but leave within five years for higher paying districts with more resources.

While the three rural districts we studied are making efforts to improve their salary competitiveness, supports for new teachers, and school climate, they are skeptical about their ability to ever catch up with neighboring districts' salaries and to offer the attractions and amenities of more urban or suburban districts. They seek larger solutions to this complex problem, and assistance through state and local policy.

Implications for Policy and Practice

While many of the challenges that rural districts face may be particularly difficult to tackle, as they include geographic isolation, smaller populations and reduced housing and other economic opportunities, there are some strategies that local and state policymakers may consider. We offer some ideas below that emerged through our review of the literature, strategies used by other states, and suggestions from the educators and administrators whom we interviewed.

- **Improve communication about PK-12 education careers.**
 - ***Improve statewide communication about career opportunities in education.***

Currently Maine school districts must pay a fee to post job advertisements through a private website, servingschools.com. New Hampshire's state educational agency provides a free online platform for educational job listings and job seekers to use. Providing this information for free statewide would help both school districts and educators find each other. In addition, high need areas of teaching should be emphasized in career information, supported by statewide data and projections of areas where educators will be needed in the next five to ten years.

- ***Improve clarity of information about state requirements regarding educational preparation and credentialing.*** District administrators and educators find it confusing to decipher what the current rules are and what educators need for full certification or credentialing, despite the fact that this information is readily accessible on the MDOE website. Feedback from users could help to identify areas where additional clarity is needed.
- ***Improve information and support for career preparation.*** As people begin to consider a career in education, or changing careers, they need clear guidance through information at the state level and from educator preparation programs in the state to understand what pathways, degree and dual-degree programs, and learning modalities (online, on campus, etc.) are available. Current personnel resources may need to be strengthened and information websites improved for clarity.
- ***Increase statewide and local efforts to communicate about education careers in a positive way.*** Negative messaging about education and educators both nationally and more locally have negative impacts on teacher recruitment and reduces the pool of people seeking a career in education. The state and local school districts, along with professional organizations in education, could use more targeted media communications to improve public perception of PK-12 education and career opportunities. A legislative proposal to increase the minimum starting salary for teachers statewide to \$40,000 and ensure mentoring supports through LD898 (Maine State Legislature, 2019), if enacted into law, will provide an important encouragement to those considering education careers.
- **Use inducements to meet high needs areas in education.** While the state and the federal government offer some inducements already, these should be examined to see what additional incentives may be needed to attract and retain educators to high needs content areas and special education, as well as to work in rural schools. Some options may be to offer loan forgiveness, signing bonuses, or higher starting salaries, and to tie those to an agreement to stay in the school or district for a minimum of five years. Maine offers teachers loan forgiveness to encourage teachers to work in low income schools and in certain subject areas, but not specifically to work in remote rural areas. Illinois has a

loan forgiveness program and has created a special education teacher tuition waiver program. The US Dept. of Education specifies areas of teacher shortages and teachers in these areas qualify for deferment and/ or cancellation of federal education loans. Some districts, as highlighted in our case studies, are already moving in the direction of these types of inducements. As reported in the case studies and a prior MEPRI report (Fallona & Johnson, 2019), Maine districts and districts in other states such as California, Colorado, and Minnesota are also using a “grow your own” approach to identify residents of their communities who have potential for education careers. For example, they are encouraging residents to become educational technicians or supporting educational technicians to become special education teachers.

- **Strengthen educator induction and mentoring.** Induction and mentoring for new educators have not been universally provided statewide or may lack effectiveness. These supports are critical for developing effective teachers and retaining teachers in both regular and special education. State requirements have been strengthened in this area, but additional supports and resources are needed to ensure that new educators have the support they need in any Maine school district.
- **Support development of regional collaboratives.** Regional collaboratives or partnerships could be developed to share resources for induction, mentoring, and on-going professional development supports for new administrators and new teachers at the PK-12 level. Regional programs might also be an effective way to provide coursework for educational technicians and specialists in behavior, speech, and other critical need areas in special education. Collaboratives could partnerships among SAUs, between SAUs and higher education institutions, and/ or between SAUs and statewide professional organizations in education.
- **Explore longer preservice teaching experience.** New teachers generally spend 8-15 weeks as student teachers and engage in classroom experiences of varying durations and quality prior to employment (Zeichner, 2010). Administrators we interviewed noted that new teachers often lack realistic expectations about the work and conditions of teaching, and also lack strong knowledge and skills in classroom management and behavior management. They suggested more preservice experience in classrooms would better prepare new teachers to work effectively with students. The increased practice should be

accompanied by the necessary frameworks and tools to make sense of their placements beyond their experiences as a student. More practice is important, but it is most effective when preservice teachers are informed about and conducting inquiry into that practice (Cochran-Smith & Lytle, 2009). This recommendation aligns with a prior MEPRI recommendation to expand the year-long “residency” model of grow-your-own (GYO) teacher preparation in rural areas (Fallona and Johnson, 2019). Further, giving preservice teachers opportunities to spend time in classrooms earlier on in their programs may help them to determine if education is a good career fit.

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Appendices

Appendix A: Interview Questions for Administrators

Appendix B: Interview Questions for Teachers

Appendix C: Additional Survey Data

Appendix A: Interview Questions for Administrators

MEPRI Study of Staffing Challenges

Identify Areas of Biggest Challenge for Teacher Staffing:

- What is the greatest challenge for your school: hiring teachers or teacher retention/turnover?

Hiring Challenges:

- In what subject areas does your school / district face the most challenge in hiring teachers?
- What other instructional staff positions present a challenge for hiring?
- Are staffing challenges or shortages a bigger problem for certain grade spans? Which ones?
- Has this challenge increased in recent years?
- Are there currently any unfilled teaching or other staff positions this year? Please describe how many and what areas. How about during the last school year?
- To what extent have you needed to hire less qualified personnel to fill positions? Explain.

Factors Contributing to Challenges in Hiring/ Staffing Schools:

- What factors seem to be contributing the most to the challenge of attracting and hiring qualified candidates for these positions?

Retention Challenges:

- For which groups of teachers do you have the most challenge with retention?

Factors Contributing to Challenges in Teacher Retention:

- What factors seem to be contributing the most to the challenge of teacher retention?
- Is your school/ district taking any particular steps to improve teacher retention? How is that working?
- What other strategies do you think would improve retention?

Consequences of Staffing Challenges:

- What are the consequences of these staffing challenges for your school?
- What are the impacts of staffing vacancies, lower retention, or hiring of less qualified teachers for other teachers in your school?
- What are the impacts of these staffing challenges for students?
- Are there broader impacts for your community? Please describe.

Reflection:

- What are the biggest concerns related to staffing challenges for your school/ district?
- What would you like state education policymakers to know about these challenges?

Appendix B: Interview Questions for Teachers

MEPRI Study of Staffing Challenges

Identify Areas of Biggest Challenge for Teacher Staffing:

- What is the greatest challenge for your school: hiring teachers or teacher retention/turnover?

Factors Contributing to Challenges in Hiring/ Staffing Schools:

- What factors seem to be contributing the most to the challenge of attracting and hiring qualified candidates for these positions?

Factors Contributing to Challenges in Teacher Retention:

- What factors seem to be contributing the most to the challenge of retaining newer teachers in your school/ district? And more veteran teachers?
- Is your school/ district taking any particular steps to improve teacher retention? How is that working?
- What other strategies do you think would improve retention?

Consequences of Staffing Challenges:

- What are the consequences of these staffing challenges for your school?
- What are the impacts of staffing vacancies, lower retention, or hiring of less qualified teachers for other teachers in your school?
- What are the impacts of these staffing challenges for students?
- Are there broader impacts for your community? Please describe.

Reflection:

- What would you like state education policymakers to know about these challenges?

Appendix C: Information on Study Sample

This appendix includes more information describing the overall sample obtained by the statewide principal and teacher surveys. Table 1 shows the distribution by district enrollment grouping for schools that responded to this survey.

Table 1. Enrollment Size of Participating Districts

SAU size	Principals	
less than or equal 500	67	24.1%
501-1000	44	15.8%
1001-2000	82	29.5%
2001 and over	85	30.6%
Total	278	100%

(Continued on next page.)

Table 2. Greatest Challenge in Recruiting Teachers

Greatest challenge in recruiting teachers	Yes	
	n=	%
Special Education	156	70.0%
Mathematics	67	30.0%
World Languages	61	27.4%
Science	56	25.1%
Music	44	19.7%
Regular K-8	38	17.0%
ELL (English language learners)	33	14.8%
Art	32	14.3%
Technology	31	13.9%
Physical Education	22	9.9%
Language Arts	17	7.6%
Career and Technical Education	13	5.8%
Social Studies	10	4.5%
Engineering	5	2.2%
Guidance	5	2.2%
Library	2	0.9%
Gifted and Talented	1	0.4%
Health	1	0.4%
Ed Tech	3	1.3%

* Based on 223 participants responding.

Table 3. Greatest Challenge in Retaining Teachers

Greatest Challenge in retaining teachers	Yes	
	n=	%
Special Education	92	41.3%
Regular K-8	34	15.2%
Mathematics	30	13.5%
Science	28	12.6%
World Languages	22	9.9%
Music	22	9.9%
Language Arts	14	6.3%
ELL (English language learners)	14	6.3%
Art	12	5.4%
Technology	10	4.5%
Social Studies	8	3.6%
Physical Education	8	3.6%
Career and Technical Education	5	2.2%
Engineering	3	1.3%
Guidance counselor	1	0.4%
Library	1	0.4%
Gifted and Talented	0	0.0%
Health	0	0.0%
Ed Tech	0	0.0%

* Based on 223 responding.